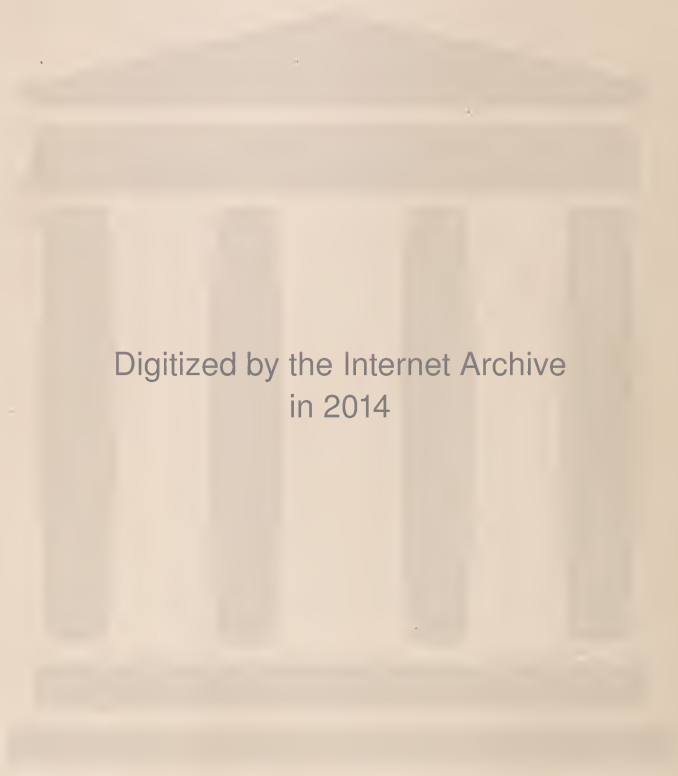




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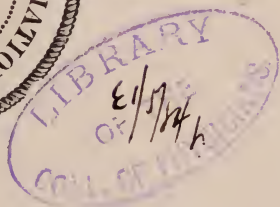
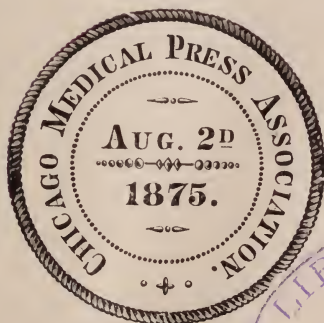
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Original Communications.

ARTICLE I.

THE CLINICAL DIAGNOSIS OF BRIGHT'S DISEASE. By C. W. PURDY, M.D., Chicago.

To the careful student of pathology, the name of Bright's Disease, as applied to all that group of renal diseases characterized by the presence of albumen and tube casts in the urine, appears unscientific and inappropriate. The numerous and distinct pathological conditions of the kidneys, all giving rise to, or accompanied by albuminuria, and the various etiological factors leading thereto, would seem to indicate a generalization of pathology and causes too sweeping, in our days of scientific exactness, to be confined within the narrow limits of such a single term. It has hence been the custom with more recent writers to base the nomenclature of renal diseases on the pathological changes found in each case; and so minutely has this been attempted, that some confusion has arisen in the opposite extreme.

It is my purpose, in the present paper, to present the most practical facts and deductions afforded by careful clinical research, as we meet them day by day, rather than enter into even a synopsis of the voluminous literature on the minute pathology, and many abstruse theories connected with these morbid processes and their consequences. For purposes of familiarity, I shall retain the name of Bright's Disease as applied to what we know of chronic disease of the minute tubules of the kidneys, the inter-tubular fibrous tissues, and the small renal blood-vessels.

It is now fifty-five years since Bright published the first description of the morbid changes in these structures; or rather what he considered to be the various changes of one disease affecting these structures. This half century has been very fruitful in scientific discovery in this important field. To the foundations laid by the illustrious Bright, others have added, with the aid of chemistry and the microscope, a greater exactness and accuracy of pathological knowledge, and, as a consequence, a therapeutic success in cases which heretofore were deemed beyond the reach of science.

Not only this, but a startling array of diseases, some of the most perilous and fatal with which humanity is afflicted, slumbered in obscurity till recent investigation has demonstrated that albuminuria was the first link in the chain of their pathology.

Let us remember that the vast list of mortality arising from hæmorrhagic apoplexy, has for its cause, in the majority of instances, one that is now clearly traceable to renal lesion. Let the obstetrician bear in mind that the most alarming complication which he is destined to encounter, the *Eclampsia Gravidarum et Parturientium*, which strikes terror to the hearts of the firmest, is now known to be due, with scarcely an exception, to renal lesion. Again, what a vast army sleep beneath the sod, with the only scientific satisfaction that, chronicled with their names, is the old, respectable, orthodox epitaph, "*Died of Dropsy*," duly recorded in the death certificate. It is not too much to state that the majority of these succumbed to the results of some renal lesion.

Consider the very large number of acute inflammations within the chest, cardial, pleural and bronchial, occurring without assign-

able cause, and so rapidly destroying life, as a result of unsuspected renal fibrosis. These are instances of facts which surround us every day. Too often these lesions slumber unsuspectedly behind some trifling ailment, till some of the terrible effects of uræmia suddenly break forth in a vital organ, revealing the diagnosis only when it becomes too late to rescue the patient from impending death.

We perceive, from facts like these, the immense importance of an early diagnosis of these insidious renal lesions. Some of them are quite amenable to early treatment. Most of them are capable of therapeutical modification to the prolongation of life, when early recognized. All of them are well-nigh hopeless when discovered in their late stages.

It has seemed to me an unfortunate fact, that the whole range of organic renal diseases whose chief characteristic is albuminuria, have been looked upon by a large share of the profession as hopeless ones from the start. A patient, after ailing for some time, calls the attention of his physician to some swelling of his feet. The urine is examined, and found to contain a large amount of albumen and epithelial casts. Although the patient is comparatively young, with great natural resources, and as yet not seriously reduced to very decided anæmia, he is informed that he has Bright's disease, and his case is necessarily hopeless. Such is evidently a case of tubular nephritis not very far advanced, and quite amenable, in the majority of cases, to treatment. Numbers of such cases, under appropriate treatment, we now know are relieved of their dropsy, the urine rendered free from albumen and casts, and if they are not cured in the strictest sense, they at least live the usual length of life, and die of some other disease. I believe that many of those cases classed as parenchymatous nephritis, if recognized reasonably early, may be readily cured. Even in cases of renal fibrosis and amyloid disease, if only the diagnosis can be early established, many lives may be vastly prolonged, and many of the fatal complications often avoided by intelligent medication.

Assuming the above to be true, what an incentive it is to study with the utmost care the early recognition of these diseases. Some of them are quite easily diagnosed; so much so that they

should not escape the attention of the merest amateur. But, on the contrary, the class of fibroses begin with insidiousness, and continue to quite an advanced stage of development, giving but few signs of warning, and these are only recognized by the diagnostician who is ever on the alert for them. It has been my duty to attend two of my medical brethren, both ripe in years and medical experience, neither of whom suspected any kidney disease whatever in their cases, till the complications of advanced granular atrophy revealed the treacherous nature of their disease; and in both these cases, they had undoubtedly labored unconsciously under this lesion for years.

Brilliant indeed have been the revelations of chemistry and the microscope in renal diseases, nor would I in the least detract from the laurels so justly won in these fields. But it requires no expert in chemistry or microscopy to diagnose the form and stage of the most important renal lesions. Careful clinical observation, always the most reliable source of medical knowledge, finds no exception to the rule here.

While the above is true, I would point out the frequent and gross error of resting the prognosis on too superficial an examination of the case. On the discovery of albumen in the urine, the patient is often practically abandoned to his fate. Let us push our inquiries further than this. Ascertain by careful inquiry if the patient has become anæmic, emaciated, and if prostration is marked. In other words, how long has the drain of serum been undermining the vital fluid? Next, are there any evidences that urea, abnormally retained in the blood, is threatening to explode on the cerebral, pulmonary, or other vital organs? Ascertain as near as possible the quantity, gravity, reaction and appearance of the urine, and approximately the amount of albumen it contains. By means of the microscope, some knowledge will be obtained from the various tube casts; yet remember that almost any form of cast due to kidney lesion may accompany any one special form of these lesions. Next, the age, history, constitution, and all important physical characteristics of the individual *per se*, should engage the attention. When all these have been duly considered, together with other symptoms presently to be mentioned, an intelligent estimate may be made of the existing lesion, its stage,

whether or not the patient is threatened with immediate danger, and above all, what can be accomplished in the way of cure.

Having pointed out the prime necessity of an early diagnosis of renal lesions, we shall now call attention to the more important symptoms whereby we may more readily recognize each special morbid change.

CHRONIC TUBAL NEPHRITIS.

Parenchymatous Nephritis, Diffuse Nephritis, as it is severally called, is pathologically known as the large white kidney. In its early stages, at least, it is essentially a catarrhal inflammation of the minute tubules of the kidney. Like inflammation in other mucous structures, there is increased denudation of epithelium, at first of the mucous lining of these tubules. Deprived to a greater or less extent of this epithelium, serum with albumen readily transudes through their walls. Hence, the ratio of albumen is always high in this form of kidney lesion, reaching at times 80 to 90 per cent. by bulk. The epithelium, exfoliated in large quantities, mixes with fibrine and chokes up the tubes, dilating them, and from the hydrostatic pressure behind, become packed into casts or moulds, some of which escaping, we find them in the urine as the characteristic cast (epithelial) of the lesion. As the disease progresses toward the advanced stages, increased numbers of these tubules become blocked up, as an increased area of the organ becomes involved, the pressure from behind dilating these tubes, general swelling is the result. The whole organ becomes enlarged to two or three times its normal size. If we follow the changes on to the last stages, we find a secondary contraction in many cases. This latter has led to much confusion in pathology as to the true nature of the original lesion. It is probable that most cases of primary tubal nephritis, if they last long enough, finally have superadded to them interstitial disease, and, as a consequence, secondary atrophy. It would indeed be unexpected, as a result of so much obstruction and stasis of fluids, and actual inflammation in the network of tubes, if the inter-tubular fibrous tissues did not at length participate in the change.

Parenchymatous nephritis of the chronic form, which is that to which we shall limit our discussion at present, may take its

origin from acute nephritis, but in many cases, it begins insidiously, and without any acute preceding symptoms.

As to its etiology, constant exposure to cold and damp atmosphere, in the temperate zone, will be found the most common cause. The poison of scarlatina, and the hyperæmia consequent on frequent pregnancy, undoubtedly lead to it. It has a quite marked hereditary proclivity, often occurring in several members of the same family. Of the use of alcoholic beverages, in relation to which so much has been said, I do not think the proofs are conclusive enough to establish them among the frequent causes. In a large proportion of the cases, the disease concludes its whole course without any satisfactory cause becoming apparent.

In searching for the early indications of chronic nephritis, there are some symptoms, which, although vague, become of the utmost value if we are on the alert for them; for they lead us at once to examine the urine, perhaps before œdema of the feet, or some more advanced symptom, reveals the character of the disease. Perhaps the most constant of these is a feeling of unaccountable weakness and lassitude. The patient eats well and sleeps well, but discovers that he is weak, and goes to a watering-place for a few weeks, only to return home unimproved in strength. The cause is due to the drain of albumen from the blood being greater than the food can replace.

The condition of the skin is important; always dry, with a husky feeling. These patients seldom perspire. The hair partakes of this dryness, and becomes thinned. Observe, in many such cases, the early indications of anæmia; not constant, it is true, but when present, it is important. If symptoms as above present themselves, even though there be no œdema, examine the urine. We observe, first, that the urine is much diminished in quantity. This symptom is never absent, so long as the nephritis continues to advance, or remains in progress. It varies, however, and keeps pretty constant pace with the activity and extent of the disease. It may be reduced to two or three ounces in twenty-four hours, and if so, we know that the kidneys are extensively involved. In the latter stages, it should be noted that if, as often happens, fibrosis is superadded, the urine may be equal in quantity to the normal amount, or even exceed this in some instances.

Next, we note that the urine is of very high color, so much so as sometimes to suggest its admixture with blood, and this is often the case. The urine is not transparent, but smoky and cloudy, containing *debris* of broken down tissues, epithelium, etc. The urinometer will show the urine to be usually high in specific gravity, between 1020 and 1030, corresponding inversely with the quantity of urine secreted.

The urine in tubal nephritis will always be found to contain albumen; this condition is never absent. It will be present in larger relative quantities in this than in any other kidney lesion, and so constantly true is this, that it becomes almost diagnostic of this lesion.

It is a most important aid to the practitioner to be able readily to estimate the presence and quantity of albumen in a specimen of urine, and without which cases do not receive the comparison day by day so essential to estimate the progress of the disease. The old method, with heat and nitric acid, takes some time to accomplish, and minor accidents are frequent, as breaking of tubes, or the boiling over of the urine and acid; and, moreover, if the amount of albumen is small, and the acid be added in excess, the albumen will be re-dissolved.

I have been in the habit, for several years, of estimating both the presence and approximate quantity of albumen by the method of Bödeker, as the quickest and most satisfactory. The process depends on the fact that albumen, in an acetic acid solution, is completely precipitated by ferrocyanide of potassium. I use a glass tube graduated to one hundred tenths of a drachm, which I fill with the urine to be tested. I then render the urine acid by the addition of a little strong acetic acid, and upon adding a few drops of the ferrocyanide of potass. solution, any and all the albumen present will be almost instantly precipitated. On setting the tube aside for a few hours, all the albumen settles to the bottom, and the percentage can be read off from the scale on the side of the tube, and compared, day by day, with sufficient accuracy for all practical purposes. To simply determine the presence of albumen, a small bottle of acetic acid and one of ferrocyanide of potassium solution may be carried in the pocket case. At the bedside of the patient, when necessary to ascertain the presence of albumen in

suspected urine, simply call for a wine-glass, fill it partly full of the urine, add the acid and solution, and the desired information is instantly obtained. This method will be found most delicate and reliable, as I have satisfied myself from repeated experiments, although the method of Méhu is claimed to be the most delicate by the very high authority of Newbaur and Vogel.

The microscope will reveal the presence of epithelial casts in large numbers, usually in the early stage of nephritis; granular casts later; and still later we may find fatty casts, or all of these may be present. From the indications enumerated, we are in a position to diagnose positively if we are dealing with a case of nephritis, and also to form a correct estimate of its extent, and amenability to treatment.

If we are only on the alert always for these symptoms, we shall sometimes be so fortunate as to be able to make a diagnosis of nephritis, even before œdema, or some other grave symptom, announces it unmistakably, and thus still more fortunate in being able to prolong indefinitely or save our patient's life. There are other and more prominent symptoms of chronic nephritis, among which may be mentioned dropsy; and it is probable that this symptom is never absent if the nephritis lasts any extended length of time. Beginning ordinarily in the feet, face or hands, it usually becomes general, involving especially the subcutaneous connective tissue. In some cases the swelling is enormous; so great, in fact, that rupture of the skin takes place, and the serum escapes in large quantities. The serous cavities frequently become the seat of effusion; in fact, almost constantly so in severe cases. Uræmia quite frequently occurs in this disease, but not so constantly as in either acutenephritis or renal fibrosis. There are two reasons assigned for this less frequent appearance of uræmia in chronic tubular nephritis. One is that the appetite, for nitrogenous foods especially, is poor, and hence the source of production of urea is less operative. Perhaps the more probable reason is the storing up of large quantities of urea in the serum which occupies the large cavities and cellular tissues, and hence, not being present in the circulation in so large quantities at a time, is unable to reach the brain and other organs with damaging force. For the same reasons, probably, we do not encounter

the acute chest affections, visual disturbances, etc., so frequently as in renal fibrosis. Hypertrophy of the left ventricle of the heart I believe to be rare in uncomplicated tubular nephritis. In the latter stages, however, when secondary contraction follows, it will be found quite common. Dyspepsia is frequent, due probably to serous infiltration into the gastric mucous tract.

GRANULAR ATROPHY.

This brings us to the consideration of what is probably the most insidious and lurking form of disease to which the human frame is heir. Its appalling complications, when once they fall upon the patient, well-nigh banish the case from the domain of hope.

It is impossible to overestimate the stealthy manner in which this disease begins, and the silence with which it sometimes slumbers unsuspectedly for years. Nor is it possible to overestimate the terrible force and rapidity with which some of its complications destroy life, when once they explode with all their force upon some vital organ. A patient who has once fastened upon him renal fibrosis, from that minute literally hangs on the verge of a precipice, from which it will depend on the acutest powers of observation of his physician if he is rescued, or, indeed, even warned of his danger. Let us, then, study the landmarks and early signs whereby this terrible disease may be apprehended in its earliest manifestations.

Granular atrophy, renal fibrosis, or interstitial nephritis, as it is severally known, is essentially a chronic disease from its commencement. So far as the changes in the kidney are concerned, every step in the process is extremely gradual. Could we but limit the damage which this disease produces in the economy to the kidneys alone, we should have the satisfaction of prolonging immensely the life of the patient. This we cannot always do, but very much may be accomplished in warding off its threatening aspects, if only early discovered.

In searching for the earliest indications of renal fibrosis, a careful consideration of its etiological relations will frequently put us on our guard, even before there are any tangible symptoms

developed. One of the most prominent and generally acknowledged causes of fibrosis is gout, first noted by Dr. Todd; and indeed, in England it is quite commonly called the gouty kidney. We find urate of soda deposited in the intertubular fibrous tissue in many cases of renal fibrosis, and previous history of gout is so common a precursor of the disease, as to leave no doubt of its prominence as a cause.

Of scarcely less prominence may be reckoned the absorption of lead, which Dickinson claims is responsible for more cases than any other known cause, ultimately destroying more than half of those whose lives are spent in paint and lead works.

Other less noted causes are valvular disease of the heart, gonorrhœa extending to the bladder, and perhaps malaria. Renal fibrosis has a strong hereditary proclivity. I believe that long-standing stricture of the urethra of small caliber is at least a predisposing cause.

Renal fibrosis is a disease mostly of middle or advancing age, unlike nephritis, which latter is most common in early life.

Among the first symptoms of interstitial disease will usually be found polyuria; the patient rises at night once, twice, or oftener, to pass his urine. This is due to the fact that more urine is secreted than normal, and the patient should be carefully interrogated on this point. It will be found, also, that the urine is of unusually light color, and free from deposits, as a rule.

Attacks of vertigo, without apparent cause, should arouse suspicion, and lead to inquiry into the state of the vascular system. Palpitation, and a feeling of want of breath, may further suggest examination of the heart, which is probably always hypertrophied in granular atrophy. The heart sounds are very loud, the impulse at the apex strong, and heaving, and there is a flat prolonged diastolic sound, heard loudest to the right of the sternum, between the insertions of the second and third right costal cartilages.

Hypertrophy of the left ventricle of the heart, which so constantly accompanies granular atrophy, has received much attention, owing to the important part it plays in the many grave complications of this disease. Many explanations of this interesting pathological change are on record, but none of them seem

to me entirely satisfactory ; and it is probable that we do not yet know clearly the true causes of this change. Traube was the first to claim that it was due to increased blood pressure in the arterial circulation, consequent on the obliteration of the many arterioles in the kidney through advancing atrophy, and in this he is supported by Carl Bartels.

While I am satisfied that there is very decided increase of arterial blood pressure as a result of hypertrophy of the left ventricle, yet I cannot believe that the hypertrophy is due to any diminution of current in the renal vessels, for the following reasons: In chronic pulmonary tuberculosis, which has obliterated larger areas of vessels by far than are destroyed in atrophy of the kidneys, hypertrophy of the right heart does not follow; on the contrary, atrophy is frequently the attendant. Again, removal of the kidney surgically does not lead to hypertrophy of the left ventricle, nor does aneurism of the aorta; and lastly, hypertrophy of the left heart often begins early in fibrosis, before any considerable extent of the kidney becomes damaged.

Another explanation is, that owing to the accumulated waste products of tissues remaining in the circulation, due to defective action of the kidneys, the blood offers greater resistance to the arterioles and capillaries as it flows through them, and a more powerful ventricle is developed in order to overcome the increased resistance to the circulation. This would seem reasonable, were it not for the fact that both in parenchymatous disease and amyloid degeneration, there is the same retention of waste products in the circulation, and yet we seldom have hypertrophy in these lesions, unless granular atrophy becomes superadded to them. The explanation of Gull and Sutton is, that a general change in the whole vascular tubes is simultaneous with that in the kidneys, and part of the disease. As a consequence, the arteries partake of the fibroid degeneration, and lose their function of assisting the heart to a great extent in propelling the blood onward, and as a result, the heart compensates by developing a more powerful left ventricle. This would explain the early development of hypertrophy, and at the same time, the reason why it is confined to the lesion of granular atrophy.

Much information may usually be derived from the pulse in cases of renal fibrosis; in fact, it is frequently characteristic. It is described as yielding the impression of a "whip-cord," firm and rolling under the finger. It is very tense, quick in rhythm, and sharply defined. The carotids present much the same character, and may often be seen distinctly pulsating. In connection with symptoms referable to the vascular state, I have repeatedly noticed the occurrence of small aneurisms in superficial arteries, most frequently about the head, neck, and upper extremities.

It is not common, in the early stages of fibrosis, to find marked anæmia, and as a symptom it must be classed with those of the advanced periods of the disease. There is but little drain of serum albumen from the blood in these cases, and usually a good condition of digestion accompanies the early progress of the disease, thus easily compensating for what loss there is for some length of time.

Headache is a frequent and early accompaniment of fibrosis, sometimes extending over weeks, with short intermissions, and when no apparent cause exists for such constant headache, it should receive due consideration as a diagnostic.

A very annoying itching of the skin is often present in these cases, and sometimes becomes excessively tormenting to the patient. The skin is dry and rough, as in parenchymatous nephritis, and the patient perspires but seldom. Visual disorders occur very often, and are frequently the first apparent symptom the patient notices. These are of two kinds: one transient, and resulting from cerebral hyperæmia, owing to great fullness of the arterial circulation and powerful contraction of the left heart. The other often causes complete and permanent blindness, and is due to changes in the retina of the same character as we find in other tissues accompanying renal fibrosis.

Frequent and troublesome coryza is common as an early symptom, and it will be noticed that it is not much influenced by the usual remedies for that disease in its common form. Hæmorrhages from the mucous membranes, particularly that of the nose, are frequent. Uræmia of an acute form is often the first indication of the presence of fibrosis. It is frequently of an epileptic character, and it is probable that many cases of sudden

death from supposed epilepsy in the first attack are due to granular atrophy.

In all such cases of first attack of supposed epilepsy, where there is no well-defined previous history of the disease, the symptoms should be most carefully scrutinized, and the urine examined. The convulsions, often extremely violent, are repeated at short intervals, which is not so frequently the case with true epilepsy. A decided urinous odor is frequently perceptible in the breath of such patients, and on inspection, crystals of urea may often be noticed upon the skin. Dickinson mentions, as a diagnostic of uræmia, that the pupils are dilated; while in convulsions from congestive causes they are contracted. I have satisfied myself, however, that this is not always to be relied on. There is another form of uræmia which is the natural termination of all cases of granular atrophy, if death does not overtake the patient through some other complication. This consists of a drowsiness, slowly merging into stupor and coma. If spasms are present, they are more clonic, and confined to certain sets of muscles.

There is a marked disturbance of the nervous system in early fibrosis, a feeling of uneasiness, referable to no particular cause, and frequently irascibility of temper. Dyspepsia is occasionally present in the early progress of fibrosis, accompanied by morning emesis and even vomiting, and especially as the disease advances, it is nearly always present to a greater or less extent.

As a rule, we have no warning dropsy, as in tubal nephritis, to put us on our guard. It is true, we may have some oedema of the feet or legs, but if so, it is usually in the advanced stages, and scarcely ever becomes prominent. A large proportion of the cases pass through this disease without any appearance of dropsy whatever.

If, in consequence of observing some of the above symptoms, it is determined to examine the urine, we first note that it is rather pale in color, and of light specific gravity, 1010 to 1015. This is the rule, but it sometimes varies. Crystals of uric acid, of large size, frequently become deposited, if the urine stands some time in a vessel or test tube. There is an increased quantity of the urine voided. In reference to albumen, this is usually

present, though almost always in small quantities, averaging perhaps one-tenth that of nephritis. Albumen *may be* temporarily absent. If the patient is much reduced in muscular development, the appetite poor, and there be not much hypertrophy of the left ventricle, the amount of albumen will always be small. The character of the food, and the amount of exercise taken, also influence this symptom very much.

Tube casts of the pale hyaline kind are usually found to accompany early fibrosis, but, like albumen, may be temporarily absent. This absence is denied by some; but, making all due allowance for their scarcity and the difficulties in finding them, owing to their delicate outlines, and the properly adjusted illumination necessary to see them, still it is probable that they are sometimes absent in the early progress of fibrosis. In the latter stages, we may have present the dark granular casts.

Such, then, are the most reliable signs which accompany the early approach of granular atrophy. He who is the most minute observer, the most patient investigator; searching and probing every symptom to its source; going over his work repeatedly where the symptoms are obscure; comparing them from day to day, and from week to week if necessary; he alone will be rewarded by unveiling the secret haunts of this stealthy malady. Many of these early symptoms are readily referable by the patient and friends to other and minor causes, and it is their persistence, rather than threatening import, that leads him to consult his physician. Other and more grave symptoms occasionally accompany renal fibrosis quite early in the course of the disease. Hæmorrhagic apoplexy is a frequent and fatal one of these. "With blood-vessels weakened through altered nutrition, and often rendered brittle from atheroma; with redoubled power of the left ventricle, and with a blood much thinned from the renal drain on its fibrine;" it is no difficult matter to understand why this very serious complication is so frequent and so fatal. It unmasks at once the pathology and etiology lying behind the larger share of those cases of cerebral hæmorrhage with consequent paralysis or sudden death.

Pneumonia, pleurisy, pericarditis, and bronchitis of an acute and fatal character, frequently terminate the progress of renal

fibrosis. The urine, being copious in quantity, is yet comparatively deficient in solid constituents, as indicated by its low gravity. The blood becomes in consequence surcharged with a large excess of nitrogenous excreta. A disposition to inflammatory attacks, especially in the above-named organs, is the result. When once inflammation sets in, it is fanned by increased arterial pressure, and a blood loaded with poisonous materials. Hence the intractability and almost uniformly fatal result of these inflammations.

Emphysema, or œdema of the lungs, erysipelas, peritonitis, endocarditis, diarrhœa, vomiting of blood, hæmaturia, ascites, hydrothorax, and other symptoms, sometimes become a part of this far-reaching disease. They all deserve the most careful consideration in a comprehensive study of granular atrophy.

AMYLOID DEGENERATION.

This name was first suggested by the apparent similarity of the characteristic resultant deposit to starch or cellulose. Lardaceous disease is also the name frequently applied to it, and this latter has received the sanction of the Pathological Society of London. We shall, however, retain the former name, as perhaps the most familiar, in our description of this diseased process.

Amyloid degeneration of the kidneys is in no sense a primary renal disease, but in all cases is a local manifestation of a general dyscrasia, expending its force principally on the smaller blood-vessels and abdominal lymphatics. The kidneys, while the most frequent, are but one of the favorite seats of this morbid process. The tendency is to excessive deposit of morbid matter, probably dealkalized fibrin, in the vessels of the kidneys, spleen, liver, bowels and other organs. Concerning a general cachexia, then, whose primary seat is probably in the blood itself, we may expect to find the most valuable diagnostic information by a careful study of its etiology. Among the causative factors of this disease, the most prominent is purulent suppuration. By far the majority of cases of amyloid disease of the kidneys will be found to follow chronic suppurative destruction of tissues elsewhere. Caries or necrosis of bone; phthisis with vomicæ; ulcerated cancer; abscesses of long standing; extensive bed-sores; in short, any suppurative

disease, if exhaustive or of long standing, is exceedingly liable to lead to amyloid disease.

Bartels seems to think there is something in the nature of pus, which on absorption into the circulation, exerts a peculiarly damaging influence on the vessels, which leads to this degeneration. This may be so; yet it frequently happens that the evidences of amyloid disease do not become manifest till months or years have elapsed after the suppurative process has terminated.

I am inclined to believe that amyloid disease is rather a result of the general exhaustive effect of suppuration on the blood; as Dickinson expresses it, "an absence of the materials in the blood which go to make up pus," than the presence of the latter material in the circulation. This becomes more probable, when we consider that other chronic diseases whose tendency is to produce blood impoverishment, are also capable of giving rise to the amyloid degeneration. Syphilis, we find, is responsible for a large proportion of these cases. Its well-known tendency to produce anæmia, even in its early stages, indicates how profoundly it affects the vital fluid. Not only in its later complications of ulceration and necrosis, but before these lesions supervene, it is a quite common source of amyloid disease.

Scrofulous and tuberculous diathesis is considered to be a frequent cause of amyloid disease, resulting in a ratio of eight or ten per cent. of the cases. When we consider that these peculiar states of constitution have as their chief characteristic weak assimilation and diminished power of nutrition, and how nearly they are related to each other in many other respects; how often the tubercular disease springs from the strumous diathesis; how, as recent syphilographers tell us, tubercular disease is often the result of hereditary syphilis, we get a more comprehensive idea of the states of the system most prone to lead up to amyloid disease. It is probable that amyloid disease is due, not to any particular *materies morbus* in the blood exerting a poisonous influence on its vessels, but rather to a loss of balance between nutrition and waste, whereby the natural elements of the blood lose certain of their essential elements of nutrition, and a peculiar degeneration ensues, falling principally upon the vessels. It is immaterial whether this balance be destroyed through suppuration

and excessive waste, or through defective nutrition or assimilation; they both conduce to the same result, for amyloid disease will be most often found to follow in the tracks of the one or the other.

The diagnosis of amyloid disease is not shrouded in as much obscurity as that of nephritis, nor by any means in as much as that of granular atrophy. For the most part clearly traceable to direct and appreciable causes to which it is secondary, it is also accompanied, and often preceded, by prominent symptoms in other organs which are not likely to escape attention.

From what has been said, it is clear that we would expect decided constitutional change, generally, before local symptoms point to amyloid kidneys. If tubal nephritis or granular atrophy sometimes attacks the kidneys of apparently healthy and even robust individuals, it is never so with amyloid disease. If there be no obvious chronic disease in progress, there is yet a marked cachectic appearance of the patient, pointing to an altered vital fluid from some underlying cause. The patient has a chronic anæmic appearance, a pale, yet muddy, hue of skin, and his movements indicate a sense of languor and weariness.

In reference to the indications which the urine itself presents; there is more or less frequency of micturition, and the quantity of urine voided is always large, especially in the early stages; usually more so than in fibrosis. Thirst is pretty constant, and cedema of the feet likewise, in the majority of cases. The latter may at first be transient, disappearing at night, to return during the day, especially if the patient be about on his feet. Diarrhœa is a most constant and annoying symptom, rarely, if ever, absent. It is usually accompanied by dyspepsia and often by vomiting. Diarrhœa returns again and again, and is one of the most frequent causes of death. These disturbances of the digestive tract are due, in the earlier stages, to excessive secretion of the mucous surfaces and a morbid deposit in the vessels, and in the worst form, to ulceration. General dropsy is the rule when the disease becomes developed. The thorax usually escapes, but ascites is pretty constant, and almost always general cellular cedema is present. The urine presents characters in some respects similar to those of fibrosis. As before remarked, it is pale, and of large quantity. Its specific gravity

is even lower than in fibrosis. I have seen it reach 1004. Albumen is probably always present, and although it varies much as to quantity, as a rule, the latter is about midway between that of nephritis on the one hand, and fibrosis on the other. Unlike either interstitial or parenchymatous disease, in amyloid degeneration there is little diminution in the amount of urea excreted by the kidneys.

Casts are pretty uniformly present; mostly narrow fibrinous ones, but rarely are they numerous. The waxy and refracting casts are more common, especially in the later stages. Occasionally the broad casts found give a characteristic, dark-red reaction, when treated with iodine solution. Jürgens and Heschl, of Germany, and Cornil, of France, first called attention also to anilin-violet as a test for these casts. This strikes a red or pink color with amyloid material and some casts found in this disease. Some prefer this latter test to iodine, not only in detecting characteristic casts, but also pathologically, in testing amyloid deposits in the Malpighian tufts and renal vessels after death.

Enlargement of the spleen or liver or both very constantly accompany this disease. Precisely the same changes occur in the vessels here, as in the kidneys, and gives rise to the same pathological appearances and chemical reactions. It is said if tubercular disease of the lungs is in progress, when amyloid degeneration attacks the kidneys and liver, the former becomes arrested. I have verified this in one case.

I have observed two cases of diabetes mellitus, both of which were followed and accompanied by amyloid disease. Uremia occurs but rarely in the course of amyloid disease. It is probable that when it does so, that either nephritis or fibrosis has been superadded to the original malady. The same may be said of hypertrophy of the heart, rarely, if ever present, when it is so usually in the latter stages, and probably as a result of the addition of renal fibrosis.

As complications of amyloid disease; acute inflammations sometimes supervene, though with much less frequency than in any of the other forms of albuminuria. The serous inflammations are perhaps the most common, especially peritonitis. Pneumonia and pleurisy sometimes occur. Suppuration of the

cellular tissue, and erysipelas sometimes result when the dropsy is extreme, and thrombosis of the femoral veins sometimes occurs from the same cause.

Such, then, are the more prominent clinical characteristics which accompany these lesions, grouped together under the term of Bright's disease. It must not be forgotten that any one form of lesion giving rise to its own particular sets of symptoms, may, and frequently does become complicated with one or the other, of those described. It is common, for instance, for a primary parenchymatous disease in its advanced stages to have engrafted upon it that of fibrosis, and perhaps equally common for the last named disease to follow that of amyloid disease. The inter-existence of these diseases has thrown much confusion into the diagnosis and clinical history of renal diseases, and calls for a careful differential study of the various symptoms.

First then, as to the history of the patient. If previously reduced by some chronic disease, as tuberculosis, scrofula, syphilis, or some lengthy suppurative process, it points strongly towards the amyloid form of disease. If the symptoms began in a vague protracted manner, extending over months, and the patient has a gouty history, or has pursued an occupation exposing him to influences of lead, it argues strongly for fibrosis. If again, the disease comes on after exposure to cold, or is not clearly traceable to other predisposing causes, it favors the presumption of nephritis. Age is an important consideration to note. Most cases of nephritis occur early in life; those of amyloid disease occur in early adult and middle life, while fibrosis for the most part is a disease of advancing age.

The urine, though subject to more or less variation in all cases, yet yields differential information the most valuable. Of albumen; if excessive in quantity, say 60 to 90 per cent by bulk, it indicates tubular disease; if smaller in quantity, say 20 to 50 per cent, it would be presumptive of amyloid degeneration; if extremely small in quantity, and temporarily absent, it is strongly indicative of fibrosis. The quantity of urine voided is much under the normal amount in nephritis; at least equal to, or somewhat more than normal in atrophy, and largely in excess in amyloid disease. The color is dark, and considerable sediment

is present in nephritis; while in both amyloid disease and fibrosis, the color is light and very little deposits are present. The gravity of the urine in nephritis, is rather higher than normal; in atrophy, it is somewhat under the standard of health, and in amyloid lesions the specific gravity is decidedly below normal.

Of tube casts; the epithelial variety are said to be characteristic of nephritis, at least they are present in larger numbers than in any other lesion. Fibrous casts are most common in atrophy, and the waxy refracting casts are most prominent in amyloid disease. Casts giving a red reaction with iodine solution, are characteristic of the last named disease.

Dropsy is constant, and early in tubular disease, less so in the amyloid form, and exceptional in fibrosis.

Of the complications of these lesions, hypertrophy of the left ventricle of the heart is a marked presumptive of fibrosis, accompanying almost every case. It is less frequently present in either of the other forms, and when present in these it is mostly in their advanced stages.

Uræmia is very common in fibrosis, probably much less so in nephritis, and rare in amyloid disease. Much the same order obtains in relation to the various inflammatory complications, as well as the disorders of vision. They are all most common in fibrosis; quite frequent in nephritis, and rarely present in amyloid disease. Hæmorrhages of the various forms characterize atrophy. Enlarged liver and spleen, with obstinate diarrhœa are peculiar to amyloid degeneration. If there be any symptom predominantly characteristic of nephritis, it must be accorded to that of dropsy.

Thus we find a very substantial ground-work for the basis of differential diagnosis of these lesions under most circumstances, when they comingle with each other in the advanced stages, and present to us aggregations of symptoms apparently anomalous and inseparable; if we but attentively study the early symptoms of each case with the necessary perseverance, we shall always find that in the inception of the malady its symptoms leaned unmistakably towards one or the other of these distinctive lesions. If, then, we trace the history onward, step by step, it will often become clear to us, the time, and form of a superadded lesion, till

at length, what at first seemed a most perplexing conglomeration of symptoms, is in fact, but the expression of two independent pathological processes progressing side by side.

In cases of much obscurity in general symptomatology, if there is any rule more than another likely to elucidate the diagnosis of these lesions it is "the careful, repeated and systematic examination of the urine," so strongly insisted upon by Bartels. He who would know what is taking place in the kidneys, must thoroughly acquaint himself for weeks, and if necessary even months, with the character and contents of the urine. No single examination of this fluid so perpetually variable in health can possibly afford a comprehensive knowledge of its still more variable pathology, and he who studies these variations the most attentively through all the stages of these lesions is likely to become the most thorough master of the subject.

We urge a more thorough study of the earliest manifestations of these lesions, a research into their pre-clinical history, that they may more often become discoverable before they have advanced so far upon us as to largely compromise our therapeutical resources for their relief.

ARTICLE II.

CASE OF EPILEPTIFORM CONVULSION AND PARALYSIS DUE TO SYPHILITIC TUMOR OF THE CORTEX IN MOTOR AREA. Case from St. Joseph's Hospital, Nervous Department, PROF. D. R. BROWER, M. D., Physician in charge.

Reported by FRANKLIN H. MARTIN, M.D., Assistant.

The peculiarity and rarity of the following case, together with the completeness of its history and the rare opportunity it afforded for a post-mortem examination, justifies us in taking the considerable space we have for its report.

The patient had his first attack in the latter part of the year 1880. The following February, by advice of his family physician, Dr. Woodworth, he consulted Prof. J. S. Jewell. Through

the kindness of Dr. Jewell, I have been permitted to use the following history of the case, taken by him at that time: "February 14, 1881. R. S. P——, age 35, weight 174 pounds. Neuro-sanguineous temperament. Maker of deformity apparatus. Worked in a close room, not well ventilated. Before this time was a traveling man, and had been healthy. Had an injury when young, on the top of the head from a fall. Scalp wound. Never had sunstroke. No rheumatism. May have had syphilis. Has had other genito-urinary diseases. Has had organic stricture of the urethra. Has had considerable alcoholic abuse. Used, and uses tobacco, strong tea and coffee. No medicine habits. No malaria. Appetite good. Good eater and has been a high liver. Digestion only fair. Wind occasionally on stomach. Nausea rare. Costive—has to use laxatives. No piles. No bowel disease. No worms. Urine passes fairly when stricture permits. No pain in passing urine. Tone of bladder fair, and no bladder disease. Strong sexual desire, although thinks he has never over-done in this way.

"At times has pains in heart. 'Faints away,' or latterly 'has fits.' Heart palpitates easily. Hands and feet cool at times. Has rush of blood to head often. No lung disease. Sweats very easily. Has wandering headaches, more severe on top of the head. For a year or so prior to October last, had a node (?) on left upper forehead.

"Vision fair in right eye. The left eye has been blind for twenty years. Not a complete loss of vision. Cannot say whether the left visual field has any play of objects. Does not know the cause of his loss of vision. Hearing good. *Tinnitus aurium* at times. Other special senses in good condition.

"Rather strong, but myasthenic. Not often dizzy, but has at times dizzy spells. Has to cease work at these times and sit down. Co-ordination fair. Dynamometer tests, and tendon reflex fair. Does not sleep well. Dreams much. Bad dreams. Restless. Muscular twitchings. The patient is neurasthenic. Memory fair. Absent-minded. Cerebro-asthenic. Cheerful as a rule. Is irritable and easily annoyed lately.

"Came out of a nervous family. Brother died of nervous disease. Mother died of nervous trouble.

“October last, had a ‘fit’ at 12 at night; came on while asleep; another at 5 a. m.; unconscious. Next ‘fit’ January last. This one while in the shop at work. Since then has had several fainting spells. Begins with a staring sensation. There is a play of heat waves in visual field which rise upward—then he has the ‘fit.’ The pupils are dilated. Difficult breathing. Froths at the mouth, and hands clenched. Does not know about what way head turns, or whether convulsions are symmetrical.”

At the time the above history was taken, Dr. Jewell put the patient upon a thorough course of the mixed bromides, and iodides. He was upon this treatment until May 5, 1881, when the following note was made: “Head turns to left during convulsions. Eyes turn away. Passes hand to mouth and works to remove his artificial teeth. Been much better. I advise him to go on with same medicine. He stopped medicine for ten days and had four ‘spells.’ Had warning of their approach, which gave him time to prepare. Had one lasting 15 minutes (? less). Had another the same night while sleeping. The next evening a light one, and did not lose consciousness.”

July 2d, the following note was made: “Has had some slight attacks—six to ten. Begins now with a curious creeping sensation in the left side of the tongue, from tip to one-half distance back, and often, also, at left roof of mouth about the same distance back as on the tongue. Pulse weak. Confused in his head, but conscious, and at times unable to talk, but can think of the words. Aphasia lasts but a few minutes. Convulsions may be caused, by touching the left side of the tongue with a piece of paper, or anything of the kind, as he has done occasionally by accident. At one attack the whole left arm was utterly paralyzed in sensation for one-fourth hour, and weak as to motility. The left cheek feels heavy and dead after convulsions. Left arm yet weak.”

At the time the above note was made, July 5th, a slight change was made in the patient’s treatment, by adding to his bromide mixture fifteen minim doses of the fluid extract of ergot, and small doses of the tincture of digitalis.

Three days after this, he started for Yarmouth, N. S., where he remained until September, when he went to New York City.

Soon after reaching Yarmouth, he discontinued Dr. Jewell's treatment, and consulted Dr. Hutchins, of that city, who put him upon a bromide and ergot prescription with iodide of potassium. On account of a severe pain in the head that was troubling him at this time, he was given in addition to the above treatment, a prescription containing tincture of opium, tincture of cannabis ind. and gelsemium. After going to New York City in September, he discontinued all drugs, and received "electrical treatment" from some irregular. The next month he left New York and came to Chicago: staid here two weeks, and went to New Orleans. From there he returned the following April. From the time he left Chicago the first time (July 5, 1881), until a short time before he returned, the last of April, 1882, he was very well and able to work—having had but three fits during the whole time. While in New York he had "a stroke of paralysis." It was impossible, under the circumstances, to learn what, and how extensive this attack was. It was doubtless one of his severer convulsive attacks.

After returning from the South, the patient commenced to have frequent attacks of vertigo, accompanied by slight convulsive movements of the muscles of the face and eyeballs. These would come on suddenly while walking in the street, or while working. Sometimes the patient would be able, with a powerful effort of the will, to ward off an attack. The "spells" increased in frequency and severity, until he came under our observation at St. Joseph's Hospital.

The patient at this time, July 13, was able to walk about the ward, and to a certain extent wait upon himself. The convulsions came on at irregular intervals of fifteen minutes to an hour, and they would vary in length from thirty seconds to a couple of minutes. The patient retained consciousness during the convulsions to a remarkable degree. He would demonstrate this feature by remembering and commenting upon remarks that were made by the attendant during his attack. By irritating the conjunctiva, he would give signs of sensibility, and afterward ask why it had been done.

The "fit" would begin by the patient experiencing a twitching of the eyes, and oppression of the chest, by which he would real-

ize at once that the convulsions were about to appear. Clonic contractions of the muscles of the eyeballs, and of the superficial muscles of the left side of the face, would now begin, followed by like contractions of the deeper muscles of the face, soon extending to the muscles of the neck, causing the head to be convulsively drawn to the left side. From here the contractions extended to the muscles of the left shoulder, arm, fore-arm and hand, and finally, in the severer attacks, to all the voluntary muscles of the left side. Respiratory movements were very irregular. The face, which at the beginning of an attack was pale, during the progress of the "fit" became congested, and almost black. Both eyeballs were rolled upward, and to the left, by the powerful clonic contraction of their muscles; the eyelids were convulsively opened and closed, and the whole appearance of the patient was that of one laboring to contract every fiber of every muscle that was in action. The convulsive movements usually passed off suddenly, and the patient would immediately regain composure, and be ready to resume any conversation that might have been interrupted. The powerful contractions caused him much suffering.

After each "fit," the patient complained of powerlessness of the left arm, and as the convulsions increased in severity and number, this became more and more aggravated, and gradually extended to the lower extremities, and finally amounted to complete loss of motion of the muscles of the left side. This paralysis came on gradually during the last two weeks of his illness, and was not complete until about three days before his death. The right side was not affected. Sensibility was not much impaired.

By experimenting with the surface brain thermometer, we observed near the right parietal eminence, extending to the median line, a spot about two inches in diameter, that exhibited a well-marked elevation of temperature. Its outlines were well defined. Moving the thermometer the width of the bulb surface in any direction from this spot would make a difference in temperature of from two-fifths to three-fifths of a degree. With the exception of this particular spot, the temperature of the two sides of the brain was the same. The surface temperature, as taken

over this particular portion the last six days before death, and that of the other portion, may be compared in the following record that was taken at the time.

The first column represents the temperature of the right side over the surface mentioned; the second, that of the left side:

Friday morning.....	98 3-5°	98°
Saturday morning.....	98 2-5	97 9-10.
Sunday morning.....	99 1-5	98 4-5.
Monday morning.....	98 2-5	98 1-5.
Tuesday morning.....	98 4-5	98 2-5.
Wednesday morning.....	100 4-5	99.

Thursday, died at 2 A. M.

The treatment the patient received while with us, was simply the mixed iodides and the bromides in appropriate doses, with the usual accompanying diet list, composed of the simplest nourishing food.

Post-mortem.—On inspection, the body exhibited old scars in numerous places, which helped to confirm the syphilitic theory. The superficial lymphatic glands were not apparently much enlarged. The body was well-developed; did not show signs of much emaciation. Upon removing the scalp, the surface of the skull presented nothing unusual. The calvarium was next removed. The inner surface exhibited nothing abnormal, except an unusually large size and number of the Pacchionian bodies. Turning attention to the brain, before disturbing its membranes or its position, the eye was at once attracted by a thick opaque deposit or tumor, about two inches in diameter, situated beneath the dura mater, on the upper surface of the right hemisphere. Its anterior portion occupied the posterior extremities of the first, second and third frontal convolutions; its posterior portion covered the superior extremity of the ascending frontal convolution. Its posterior border overlapped the fissure of Rolando, and its superior or internal border extended to the longitudinal fissure. The dura mater was closely united to the surface of the tumor, to the extent of from perhaps one and a half to two inches square, very much thickened, and of a yellow translucency. In a section made perpendicularly into the tumor through the dura mater,

it was seen that the dura mater, the arachnoid, the pia mater and surface of the brain were blended into an unrecognizable mass. There was some effusion into the ventricles and sub-arachnoid spaces. The membranes immediately surrounding the tumor gave signs of recent acute inflammation. The result of the microscopical examination, which was kindly made by Prof. I. N. Danforth, is given in the following report from him to Prof. Brower :

My dear Doctor :—I have studied sections of the nodule of brain-tissue you left with me some time since, and am satisfied that they are syphilitic in their nature, because, (1) I find the peculiar form in the blood-vessels described by Ranvier (Path. Histology, p. 351), and by him credited to Heubner, Greenfield and Barlow. This lesion consists essentially in a diminution of the lumen of the vessels, and this is due to two causes; thickening of the inner coat by a cellular growth very much like granulation tissue, or embryonal tissue; and also a thickening (hypertrophy) of the external layer (adventitia) and this is due to a multiplication of spindle cells—in fact, the production of a low form of connective tissue.

(2) I find the characteristic increase of connective tissue cells (cells of the neuroglia) in the indurated nodular masses. The branched connective tissue cells are not present—at least, I have not found them. But that is not an essential point; in fact, it only indicates that the connective tissue cells have grown too rapidly to admit of perfect differentiation.

Yours truly,

I. N. DANFORTH.

It will be noticed that this case is one of the very few actual clinical cases reported that help to confirm Hitzig's and Ferrier's theory of motor localization in the cortex of the brain. Observe the accompanying drawing from Hitzig, with explanations, the dotted tracing giving location of the tumor.

Assuming that the accompanying cut is correct in every respect, it is easy to explain the various manifestations of the convulsions in the different stages of our case, while the tumor was developing. The tumor commenced as a small nodule, undoubtedly, situated entirely in the membranes, and by its presence,

simply irritated the motor centers controlling the muscles of the face for one side, this irritation causing these muscles to contract.



The disease gradually extended in the membranes, irritating successively the motor centers for the upper extremity, the trunk, and finally the lower extremity. Soon the disease invaded not only the membranes, but the tissue of the brain immediately beneath them, thereby destroying the tissues or centers of motion it had heretofore but irritated. Of course, as these centers were invaded and destroyed, exactly to that extent were the muscles that they controlled paralyzed.

ARTICLE III.

LOCOMOTOR ATAXIA. CASE. RECOVERY. By A. M. CARPENTER, M. D., Professor Practice of Medicine, College of Physicians and Surgeons, Chicago.

It is so unusual for cases of the ataxic type to eventuate in perfect restitution, I feel constrained to lay before your readers the history of a well-marked instance—which may not correspond accurately with the description given of the affection by recognized authorities, but nevertheless quite prominent in its essential features.

November 13, 1879, was asked to visit F. W., aged 21, and treat him for paralysis. Coming into his presence, he at at once

apologized for his appearance physically, by stating that he was not intoxicated, as some of his neighbors had supposed, because of his tottering gait.

When asked to exhibit his walk he consented, staggering across the apartment, aided by two canes—declaring he had never drunk. The gait disproved the existence of paralysis; the heel struck hard after a spasmodic effort; the ball of the foot followed after an interval; no arc of a circle or dragging was described. Nor had he the faculty of adapting either foot to any special point. The same want of co-ordination obtained in the finger, which would alight on the chin instead of the lip; the distance between the feet during attempts at locomotion was diagnostic, especially while standing, which he could not do with closed eyes—nor was he capable of standing to do his morning ablutions without toppling over. The inability to walk increased, until he had to be supported. Anæsthesia of the plantar aspect was present. Sensory impressions were slowly conveyed, as evidenced by the prick of a needle not being felt for several seconds, while a heated iron was discernible, and responsive movements of the muscles was observed when tickling was practiced, which, according to writers, is explicable on the ground of there being four sets of fibers resident in each sensiferous nerve—and though these multiple fibers are in close companionship, they are susceptible of functioning activity as individual nerves, and may be pathologically deranged in their separate capacities without the nerve being altered in its entirety. Applying a hot sponge to the skin produced no effect, nor was there present “the constricting band” sensation so frequently present in myelitis, but our patient was sorely harassed with neuralgic pains, which were not domiciled in one spot, shifting from lower to upper extremities.

There was more or less confusion of intellect. The bladder was under the volition of the patient, which is not the case in paraplegia. Seeing that we had to wrestle with ataxia, the next point of inquiry was as to the prominent factor which sustained a causative relation to the malady. It was ascertained that he had suffered an attack of malarial fever, of a remittent type, some weeks prior to my visit, but which was regarded as insuffi-

cient of itself to have produced such a train of consequences. Upon further search, the discovery was made that the youth was an inordinate user of tobacco, and of the virile member in a solitary way—being of continent habits had never had congress with a female. The conclusion was reached that the lumbar spine had sustained the greatest shock, in accordance with which our judgement was delivered, and hope of recovery held out to the family of the sufferer because of the age of the patient, and his general good habits aside from those already mentioned. Absolute quiet was enjoined as one of the conditions of success. The curious were prohibited seeing him, and shortly his tongue lost its confusion. In the course of a few weeks electric sensibility was restored to the extremities through the aid of spinal galvanization and general faradization. The hæmotosic function, which had been embarrassed since the attack of remittent, was gradually restored under the use of twenty-drop doses of dialysed iron, thrice daily. Ergot signally failed to better the condition of the cord, when the sixtieth of a gr. of phosphorus in union with the thirtieth gr. of strychnia, thrice daily, was employed for ninety days, with general amendment in all the symptoms, at which time he could propel himself with two canes very comfortably, though the gait was not quite normal. After the lapse of six months from the date of the attack locomotion was perfect. A letter of date of September last, from the patient, states that there has been no return of malady or anything akin to it.

It is foreign to the object of this hurried report to offer the plan of management as containing anything new. Suffice that it was a fortunate case for experimentation with stereotyped measures. It is possible that the diagnosis was faulty, and that the disease was an incubative state between congestion and induration, which may be a crumb to those who aver that sclerosed cords are never recovered from. Whether rated as functional or lesional in its type the fact stands out, that according to the history as portrayed by some neuropathologists, it was a well-declared case of ataxia; was so adjudged, and perfectly recovered under a recognized plan of management with which every observant medical man is familiar.

ARTICLE IV.

INFECTION OF SCARLET FEVER. BY E. INGALS, M.D., Chicago.

Among some old notes of cases I find the following, which may be of interest, as bearing on the question of the communicability of scarlet fever. A gentleman living on a farm seven miles below Joliet, Ills., and one mile from the railroad station, had a daughter twelve years old, who spent the winter of 1872-3 in Chicago, living in the family of a sister, who was a resident of the city. In the month of February, she had an attack of scarlet fever and I was called to attend her. It was a simple case, quite devoid of interest, and the recovery was speedy and complete. During the period of her convalescence, after the eruption had disappeared, and when the patient was beginning to sit up, her father came from his home to see her, remaining one night with the family in which the child lived. In the evening the father held the child in his arms. In the morning he returned to Joliet, where he stopped, and was about the town transacting business until the evening train took him seven miles to his own station, from which he walked one mile to his home, reaching it about twelve hours after he had left Chicago. He had children at home, none of whom had previously contracted scarlet fever. Of the number, one sickened with the disease on the fourteenth, and another on the fifteenth day after the father's return from visiting his sick child in Chicago. Two weeks later, another child came down with the disease, and the others escaped. The children had not been from home, nor was any scarlet fever known to be in the neighborhood. The friends who gave me such of the above facts as did not come under my personal observation, were highly intelligent and trustworthy persons. Doubtless, the disease would rarely be communicated under circumstances such as I have narrated, though I believe it was in this instance, and the case suggests the care that should be observed if we would limit the spread of scarlet fever.

34 Throop st., Chicago.

ARTICLE V.

STOCKADING A LOOSE CARTILAGE WITH HARE-LIP PINS TO FIX IT FOR OPERATION. By EDMUND ANDREWS, M.D., Professor of Surgery in Chicago Medical College.

A patient came to me from Dakota with a loose cartilage in the knee-joint. There was the usual complaint of its catching suddenly in the articulation so as to produce violent pain, followed by synovitis, and reason to fear that, by continued repetition of these accidents, destructive disease of the knee would be set up.

The object was of moderate size, and had this peculiar behavior, that it could not be cornered in the usual pocket in the antero-lateral fold of the synovial membrane where it laps over the edge of the tibia. Instead of this, whenever it appeared within reach, it was in the broad fold of the sac, where it laps upward on the side of the condyle of the femur. I found the space here was so wide that I could not retain the slippery cartilage in one spot long enough to extract it, for with the slightest change in the position of the fingers, I lost it into the interior of the articulation.

After being baffled in this way three or four times, I attempted to transfix the body with a cataract needle, but found it calcified, and so hard that I only bent the point of the needle, while a stronger needle, next resorted to, would not penetrate the object enough to get a secure hold.

Defeated in all these efforts, I next took a number of hare-lip pins, and inserted them down to the condyle in a circle around the floating body, and thus confined it in a stockade. Then, with a tenotome and a pair of forceps, I succeeded without difficulty in the extraction.

The operation was done under carbolyzed spray, and with all antiseptic precautions. A very slight synovitis ensued, but it was insignificant, and subsided without any evil results.

No. 6 Sixteenth St., Chicago.

Translations from Foreign Exchanges.

BY O. STROINSKI, M.D.

DOUBLE URETHRA IN MAN.

Double urethra in man is a very rare occurrence, so that Birch-Hirshfeld, in his new pathological anatomy, says: "There is not a single case stated of double urethra in man. But Vesalius already says: '*Hic adolescens juris studiosus mihi familiaris est, qui in glandis apice duos obtinuit meatos, unum semini, alterum urinae paratum.*' (This young student of law is well known to me, who has a double aperture on the glans penis; one serving for passing the urine, the other for separating the seminal fluid.)" Cruveilhier mentions another case: *Il consiste dans une ouverture anormale, située sur la face dorsale du glande, à une petite distance du meat urinaire. A cette ouverture aboutit un canal, qui regne sur la ligne médiane de la face dorsale de la verge, et qui est lui-même constitué par la réunion des deux canaux de l'urèthre; l'un ordinaire pour l'expulsion de l'urine, l'autre dorsal pour servir à l'émission de sperme.* The following case of double urethra is reported by Dr. Emanuele Luxardo, at Ragusa: A stout young farmer is suffering from chronic blenorrhœa, and on examining the penis, there are found three apertures on the glans penis. There is a vertical fissure on the glans, eleven mm. long, in the form of an oblong oval, the base of which is on the frenum. The upper aperture is linear and vertical, three mm. long, and measuring four mm. in diameter. The inferior aperture is four mm. long, and linear. Between these two orifices, and running to the basis of the fissure, there is a third aperture, circular, and penetrable by a No. 1 bougie. The labia of the

fissure are limited by this aperture, and they form a horse-shoe-like figure. A lateral part of this aperture forms a small triangle with the rectilinear inferior zone, the basis of which is four mm. long. There is a dilatation in the inner part, and this seems to be the regular fossa navicularis. The third aperture terminates on the inferior part of the zona. This aperture secretes by pressure a sthenic pus, and the urine was always passed through this aperture. None of the apertures were larger in diameter than 17 cm., and through the inferior aperture a bougie of this caliber was passed into the bladder. There was no connection between any of these canals, and not a drop of urine passed through the superior aperture, even when the penis was in erection. Injections of carmine into the superior canal did not color the urine. The relation of the prostate gland to the superior canal is uncertain, but the patient passed the seminal fluid through this aperture. The intermediate canal separated blenorrhagic pus.—*Giornale internazionale d'scienze mediche*.

DR. MOOREN, the world-known oculist at Duesseldorf, Germany, has published the experiences of his extensive practice in the last twenty-five years. The work done by him is really enormous. He treated at his private clinics, during this time, 108,416 persons. The material is therefore immense, but we will give here some points. The relation of hereditary eye diseases to defects of the auditory sense is marked, especially among the Jews. Paresis of the eye muscles, produced by rheumatic influences, is treated by sudorifics. Epithelial defects of the cornea, and abscesses on the same, of whatever character, are treated with physostigma, but in cases of pericorneal injection, atropine is applied. In iritis, atropine is not always indicated; in traumatic cases never. Dr. Mooren is not only an ophthalmologist *par excellence*, but he is also a good pathologist, as the following cases show: A high officer in the army suffered from temporary disturbances in vision. The bulbs were highly indurated, but there was hardly any excavation, and only the pulsation of the arteria retinæ was perceptible. Central vision was but slightly impaired. The case seemed to be one of glaucoma of central origin, the patient having suffered from rheumatism and from

syphilis a short before. Iridectomy was made on the right eye, and the patient went to another physician to take an antisiphilitic treatment (mercury ointment innunction). After two weeks' treatment, the patient came back, suffering from intense pains in the feet, and especially in the heels. There was general disturbance of the sight in the left eye. Paralytic affections were present in both limbs, and pains in the back and sternum. The diagnosis was now subacute myelitis. The glaucoma of the left eye was complete, and iridectomy was therefore performed immediately. But there appeared keratitis parynchymatosa in the whole cornea. Pains in the back and breast, and in all the terminations of the trigeminus; bladder intact. On the tenth day after operation, the right eye became inflamed, and there appeared also keratitis; vision diminished to the mere distinction of the light of a lamp. After two months' treatment with the mercurial ointment, the pains were gone, and there was but a little spot on the pupils. The ophthalmoscopic examination showed a slight atrophy of the insertion of the optic nerve. The treatment was now changed, pills of nitrate of silver being given. The wabbling walk of the patient disappeared, and vision was entirely restored. A second case was also very interesting. A lady, whose husband died with symptoms of syphilis of the brain, complained of temporary defect of vision in the left eye, there being no anomalies in the pupils or their surroundings. Both tibiæ showed osteous enlargements. While there were disturbances in the left eye, there was immobility of the body on the right side. The head was slightly turned to the left side. There was permanent headache during the last two months, and she had always sensations of becoming paralyzed, except when she sat straight on horseback. The diagnosis was syphilis of the bones. The increasing pains when lying on a lounge resulted from pressure of the processus odontoideus. Eighty innunctions with mercury-ointment were made, and syr. ferr. jod. was given at the same time. The lady recovered entirely. One of her sons became sick when seven years of age. The boy had a continuous headache, and he lost his memory. After a year and a half, vision became impaired. The diagnosis was neuritis opticus resulting from diffuse syphilis of the brain. Innunctions with

mercurial ointment, and iron with cod-liver oil, cured the boy entirely.—*Memorabilien*.

A CASE OF HYPNOTISM, WITH PHENOMENA OF REVERTED SENSES.

The patient, a woman twenty-five years of age, has always been healthy. At fourteen she menstruated, and at nineteen she married. Four months after marriage, the first symptoms of hypnotism and catalepsy appeared, but she recovered quickly. Then, when suffering from pains in the last molar, the phenomena reappeared, but after extraction of the tooth, she was well again. On the evening of July 5, 1876, she began to talk with open eyes, but then she recognized the persons around her, and even the color of their dresses. While simulation was suspected, a strong electric current was applied, and the muscles acted well, but the woman remained in the state of hypnotism. A stronger galvanic current suddenly provoked all the symptoms of grave catalepsy. In the hospital to which the now somewhat emaciated woman was taken, she was closely watched. In the intervals of the attacks, she speaks perfectly rationally, and there is no anomaly of sensibility. The organs of the thorax are normal, as also those of the pelvic cavity, and she writes her name correctly. During an attack, which can be produced at any time by pressure upon a certain point on the spinal column, the pulse and respiration are normal; the eyeballs convergent; the pupils slightly dilated. The muscles act but slowly under electricity, but a strong current excites the muscles of *both* sides of the body, so that when the right arm is electricized, the left arm will make the same movements. The hearing is abolished, and even the loudest noise disturbs the patient not in the least, but questions of persons acquainted with her will be answered. Pressure on any part of the body has not the slightest effect, except on the spot on the back. She speaks about her household duties; about the hospital and her disease; then of the stethoscope as of a large tube connected with a large basin, and to which she is fastened; but in mentioning her person, she speaks as of a third person. The voice is indifferent, and there is no intonation. There is increased excitability of the muscles, and anæsthesia of the skin. From

the former results the aggravated symptoms provoked by a strong current. In this latter state, the pulse and respiration are slow, the pupils dilated, and they do not react even when a full stream of light from a reflector is thrown upon them. When in the state of hypnotism, she is able, when given a pen, to write a better caligraphy than normal. After the attacks, which last from a few minutes to thirty or forty hours, she complains of headache and nausea, and she has not the slightest remembrance of what has taken place. So, when the attack has lasted a day or two, she thinks that she has slept one hour, and *vice versa*. Every person acquainted with her is recognized by a slight pressure of the hand, but other persons are absolutely absent for her during the attack.—*Gazetta Medica Italiana*.

POLIO-(TREPHO)-MYELITIS ANTERIOR.

The rarity of this disease, and its peculiar symptoms, have always interested physicians. The following case will show symptoms which are not always observed. A physician, forty-one years of age, and a very busy practitioner, felt suddenly a weakness in the lower extremities. During the day he was able to walk, but on the same evening he could not climb the stairs without being assisted. At first, the muscles of the upper part of the left limb were affected, and then the muscles of the right limb. Paresis of the lower extremities followed during the next two days, and on the fifth day paralysis of the same. At the same time, a weakness of the muscles in the dorsal region was noticed; then paresis and paralysis of the right and left arms, and at last the muscles of the neck and face were attacked. On the eleventh day, the *status præsens* was as follows: The patient is of a gracile structure, without panniculus adiposus; the lower extremities are paralyzed; the muscles lax; passive motion not impaired; perfect paralysis of the muscles of the middle part of the body; not the slightest motion can be executed by this part. Left arm motionless; on the right arm only the fingers can be moved. Paresis of the muscles of the face, but the mouth can be opened; the patient cannot spit out. The eyes can be closed and opened; knitting the brows is impossible, also deep inspiration and expectoration. With the exception of slight movements

of the head and the right hand, the body is motionless. Sphincters free. Urination but seldom; urine without albumen. Defecation must be brought on by high injections. The sensibility of the lower extremities is abolished; the sense of touch is lost; the patient cannot discern if a piece of wood or cloth is laid between the toes or fingers. Temperature and the sensation of pain very much diminished. The reflex sensation of the skin and the tendons is abolished. Pupils small, but they react normally. The patient is morally depressed, believing that he suffers from Gaudry's paralysis, and that he must die. After three weeks, decubitus set in, but after four to six weeks' treatment with the Faradaic current, the patient recovered entirely. There were some symptoms of syphilitic affection, and the patient had had syphilis twenty years ago, but the treatment proved the true nature of the disease.—*St. Petersburg Med. Wochenschrift.*

A CASE OF SARCOMA OF THE BRAIN, WITH DIFFUSION INTO THE CEREBRAL AND SPINAL NERVES.

The patient noticed first a disturbance of vision (amblyopia). He then had a slight fever, with pains in the head and along the spinal column, and contraction of the lumbar muscles. Then vision returned, but there was strabismus. The contractions ceased after application of the Faradaic current. At last a paralysis of the lower part of the face set in, and muscular contractions of the left side of the face. Under these symptoms the patient died. On the left cerebral hemisphere there was an oval tumor of the size of a hen's egg, which was in correspondence with the middle lobe. It consisted of a grayish, friable mass, with softening and hæmorrhages around it. It was situated in the occipital lobe, in the parietal lobe, and it terminated on the surface of the brain, where it was fluctuating. In the hæmorrhagic surroundings there were found irregular trabecles. The softening extended to the superior part of the left lateral ventricle. The pia mater was uniformly opaque; the veins turgid; in the termination of the tumor into the pia mater was a hæmorrhagic spot. The spinal dura mater was also opaque, the veins turgid, and there were patches of grayish, soft matter. In many roots of the nerves, and especially in that of the cauda

equina, were present fusiform plaques of grayish color, with numerous hæmorrhagic spots. The occipital tumor consisted of fusiform cells of various sizes, with abundant protoplasma. Between the fusiform cells were dispersed round cells, with but little protoplasma. The blood-vessels and capillaries were enlarged, and the walls infiltrated. The small tumors of the cerebral and spinal nerves consisted of the same elements. The several dissections showed an infiltration of the epineurium, and that of the perineurium and the round cells formed a circular accumulation. The transverse section of a nervous fascia of a spinal nerve showed sarcomatous cells entering the epineurium and perineurium, following the injected fluid on the arachnoidal space. In this case there was a centrifugal diffusion of the tumor.—*Giornale internazionale delle scienze Mediche*.

PSORIASIS VULGARIS ACUTA OF THE SKIN AND THE MUCOUS MEMBRANES.

Psoriasis of the mucous membranes has not been observed either by Hebra or Kaposi. In Russia, psoriasis vulgaris is very common, and it offers a good field for observations. Dr. Pospelow, of Moscow, makes the following report: A servant-girl had entered the hospital for chancre of the anus, which she had had for three months. The chancres healed under the treatment of iodoform and lukewarm water. A day after the disappearance of the ulcers, red spots were visible on the back, the neck, and the palms of the hands, resembling those of roseola syphilitica. The mucous membrane of the mouth was reddened; swallowing difficult. On the following day, the exanthema spread to the chest, the abdomen and the lower lip. On the elbows, the knees, and the buttocks were formed soft silver-like epidermoidal scales upon the reddened epidermis. These scales were confluent, and formed large layers. Scratching off the scales caused a punctiform hæmorrhage, and a soft surface was visible. The scales appeared upon the mucous membrane of the lower lip, and then they entered the entire cavity of the mouth. Here the scales appeared as white swollen plates, distinctly circumscribed. On both sides of the uvula there appeared on the soft palate symmetrical violet spots, the tonsils being slightly enlarged. On the

back and the thorax, the eruption showed dendroid figures like those drawn in Neumann's Atlas on psoriasis. On the fifth day, the fever, itching and eruption ceased, but the formation of the scales continued. On the eighteenth day, the reddening of the skin was gone, and the lower lip appeared normal again. On the body there remained keratoid enlargements of the ducts of the sebaceous glands. Forty-nine days after commencement, the symptoms were entirely gone without any medication. That the eruption was not of a syphilitic character, the absence of enlargement of the glands, and especially the disappearance without any treatment, proves satisfactorily.—*St. Petersburg Med. Wochenschr.*

ON MALARIAL FEVERS.

The travelers in hot climates, as well as the inhabitants of those districts, are exposed to intermittent fevers when sleeping on the ground in the night air. It is, however, a well-known fact, that hunters of elephants are not attacked by any fever while used to fumigate the nude body with sulphur every day. In the neighborhood of Milan there is a large plain, where it is impossible to pass a night without being attacked by malaria. Here are the ruins of a once large city, Zephyria, which was in a flourishing state about 300 years ago. There are yet counted to-day the ruins of thirty-eight large churches, a large monastery, and a great number of palaces. Malaria decimated the population, and the houses are now deserted. Twenty years ago there were 200 inhabitants, all suffering from malaria, and in a miserable state. Their painful sufferings attracted the attention of the Greek government, and several efforts were made to dislocate the inhabitants, but they refused to go, saying that they were in the hands of God, and that they submitted themselves with resignation to the hands of Providence. The last of these miserable creatures died fifteen years ago. The thought of a city of forty thousand inhabitants being attacked by a disease and depopulated, the entire fanatical population being without any help, is rather horrible. There is no other example in history of a large city being thus destroyed to the last inhabitant. And not far from there is a very healthy region, where sulphurous vapors are

ascending from the ground, and where every inhabitant is free from intermittent fevers. In olden times, the whole island was saturated with sulphurous vapors, and then the population was healthy and prospered. But now Zephyria and Adamantor are deserted, and only Kastron, which is situated on an elevated plain, is inhabited. The facts above given show that sulphurous vapors are a sure preventative against all malarial poisons, and that fumigation with these vapors will prevent any infection with malarial poison.—*Revue Médicale*.

SUPPURATIVE OTITIS CAUSED BY TAMPONMENT OF THE NASAL FOSSÆ.

The tamponment of the nasal fossæ is made in hæmorrhages in the nasal cavities, and the blood-clots are compressed by the tampon. These blood-clots are also in the upper part of the pharynx and in the pavilion of the trumpet. If the blood is repelled into the trumpet and kept there, violent otitis will follow. The presence of the tampon gives rise to local irritation, and this is especially intense when chloride of zinc has been applied. The putrefied blood will increase this irritation, and in two or three days there will be a true pharyngitis. This inflammation will reach the cavity of the tympanum. The suppuration established around the tampon will enter the trumpet and cavity of the tympanum. The repeated epistaxis which made necessary the application of the tampon has weakened the patient, and diminished his power of resistance. In certain cases, the epistaxis is accompanied by pyrexia, in which cases the mucous membrane of the pharynx and inner ear is in a state of inflammation. In one case, the intolerable pain ceased only after perforation of the tympanum by incision. It is therefore necessary to try first every other means, before applying the tampon. In a great number of cases, the epistaxis is located in the anterior part of the nasal fossæ, in which cases a small tampon saturated with perchloride of iron, and applied for a few minutes, will suffice to stop the hæmorrhage. The latter is often due to general hyperæmia of the mucous membrane, caused by a peculiar affection of the vessels and the blood itself, and in many cases an injection of warm vinegar will be the best remedy. Quinine and hypodermic

injections of ergot are the best remedies in the treatment of these cases.—*Revue Médicale*.

TREATMENT OF FISTULA ANI BY ELASTIC LIGATURE.

The elastic ligature was generally applied a short time ago, and it has been entirely abandoned at the present time, but in some cases it may be used with good results. In fistula ani, the division with the knife will sometimes provoke severe hæmorrhage; the application of the ecraseur requires administration of chloroform, and in galvano-cautery the same narcosis will also be necessary, which is an impediment in patients of a debilitated constitution. The application of the elastic ligature is very simple. If the fistula is complete, but the upper orifice is not easily detected, a stilette with the ligature is introduced. If it is necessary to perforate the muscular wall of the rectum, a pointed sound will suffice, on which is fastened the stilette. The very large fistulæ, with multiple orifices, must be divided at two or three points, and these separately ligatured. The thread should be of the smallest caliber. The thread is tied with a triple knot, or the ends are tied with another waxed thread. The force of constriction ought to be moderate. The drainage tubes must be of small size and elastic. The elastic ligature can be applied without anæsthetics, a circumstance of very great importance with cachectic persons. After the removal of the ligature, the patient should take sulphur baths. The cure is sometimes perfect, but in some cases there will be a return.—*Journal de Médecine et Chirurgie pratiques*.

CANCER OF THE PERITONEUM.

Primitive cancer of the peritoneum is rare, but some cases have been recently observed. The course of the disease is similar to that of chronic tuberculous peritonitis. In cancer of the peritoneum, the digestive troubles are hardly perceptible at first, but then they take a rapid development. The diarrhœa, when once started, is intractable, and therefore the course of the disease is a rapid one. Ascites is very frequent and abundant, and the fluid always contains a certain quantity of blood. Œdema of the limbs is always present, even in the first stage, and cachexia

appears very soon. Blood circulation is often impeded, on account of the large tumors in the abdomen, and there is often thrombosis in the abdominal veins. Cancer of the peritoneum is incurable, while some cases of tuberculous peritonitis will recover.—*Journal de Médecine et Chirurgie pratiques.*

ON GASTROSCOPIA AND ŒSOPHAGOSCOPIA.

The urethra and bladder are examined by an apparatus invented by Dr. Nitze, at Dresden, but all experiments to illuminate the œsophagus and stomach have been hitherto unsuccessful. Mikulicz, at Vienna, has solved the problem, after repeated experiments on the human corpse. The first difficulty to overcome is the constrictor pharyngis inferior, which closes the entrance of the œsophagus entirely. To overcome the contraction of the stomach, this organ has to be filled with air. The instrument consists of two parts, that for the œsophagus and that for the stomach. The œsophagus must be trained to the introduction of the instrument, and the latter must be so constructed as to be adaptable to the curvature of the sternum and dorsal vertebræ. The electric light is used as illuminating matter, and a current of water cools off the heated instrument. Six cases have been thus examined and diagnosticated, where all other means failed, among them a case of aneurism of the aorta descendens compressing the œsophagus. The instrument will doubtless be improved, and the many hitherto obscure pathological conditions of the œsophagus and stomach will be thus explained.—*Correspondenz Blatt f. Schweizer Aertze.*

CHRONIC POLYGASTRITIS.

Chronic inflammation of any organ of the body has three phases: 1. That of entrance of free lymphoid cells between the elements of the tissue. 2. Formation of soft and then of hard connective tissue. 3. Destruction of the original tissue by pressure. Chronic gastritis and polygastritis have been treated by internal use of warm water or Carlsbad. But in chronic polygastritis, the patient is so emaciated that Carlsbad interferes with his condition, on account of its debilitating effects.

F. Rotz has recommended injections of warm water into the stomach with the stomach pump, and he has had the best results by this method. The walls of the stomach are thus irritated, and the formation of new tissue accelerated.—*Pesth Med. Presse.*

PACHYMEINGITIS.

M. Langlet has found osseous products on the meninges in pachymeningitis. In the first case, he observed osseous spots half an mm. large in the frontal and parietal regions. In a second case, that of alcoholism, he found a blood-cyst, and in certain parts osseous embryonic tissue. In a third case, he discovered on the internal surface of the meninges an osseous layer, with some blood-vessels. In this patient there was mitral affection, with atheromatous arteries. Between the internal and external surfaces of the dura mater there were osseous spots of recent formation, in correspondence with other ossiform products in the internal surface of the cranium.—*Union médicale du Nord-Est.*

ON ANTISEPTIC TREATMENT OF TYPHOID FEVER.

Dr. Rothe, at Altenburg, used the following treatment of this disease with the best results: The patient is placed in a well-ventilated room, with open windows, and is covered but slightly. A mixture of carbolic acid and alcohol, one gramm. each, tinct. aconit. two grms., peppermint water and syrup, fifty grms. each, is given, one teaspoonful every hour. If the temperature should be very high on the first days, cold swathings are applied. As nourishment, milk and buttermilk are given. The course of the disease was a very mild one in the reported cases, the fever already receding on the third day.—*Memorabilien.*

ASPIRATION OF A SEROUS FLUID IN THE PERICARDIUM. RECOVERY.

A boy twelve years of age suffered first from acute rheumatism. After two weeks, pericarditis set in, and suddenly the patient became asphyctic, the veins of the thorax being overfilled, and the action of the heart very irregular. An aspirator needle was inserted three cm. from the sternum, into the second intercostal

space, and then, no effect resulting, into the third intercostal space. One hundred grms. of a serous fluid were aspirated, and the patient recovered quickly.—*Correspondenz Blatt. f. Schweizer Aertze.*

PREGNANCY with imperforate hymen is frequently found in certain parts of Russia. The cause of it is the immoral habit of persons of both sexes sleeping together in one bed, there being often twenty or more persons in one bed. Being afraid of the consequences, there is practiced a manipulation which gives pleasure to both sexes, but which does not always prevent pregnancy. The "Skopzen," a religious sect, prevents this by castration of the males.

DYNAMITE (nitro-glycerine) is attracting attention among the medical fraternity in France. There having been several interesting suicides with dynamite, the article comes in fashion as a remedy for affections of the chest, and as an external agent in ulcers, etc. One thing is sure, *i. e.*, the ulcer is gone when the dynamite comes in contact with too much oxygen.

A CASE of polyorchism was observed in Bulgaria, on a farmer eighteen years of age. There were three testicles, two being on the right in the scrotum, one above the other.

GEORGE CRITCHETT, the well-known oculist of London, died on the first day of November, 1882, aged sixty-five years, from hypertrophy of the prostate with cystitis.

PROF. VIRCHOW, at Berlin, has recovered from an attack of nephritis.

DR. E. C. SEGUIN, whose recent crushing bereavement has so drawn upon him the sympathy of the medical world, is making preparations to spend some months abroad, leaving his professional affairs in care of Dr. R. W. Amidon, 41 W. Twentieth St., New York.

Selections.

THE BRADSHAWE LECTURE ON SOME RARE AND NEW DISEASES.

Delivered at the Royal College of Surgeons of England on December 13th, 1882. By SIR JAMES PAGET, F.R.S.

Mr. President and Gentlemen :—It is my first duty, in delivering the first Bradshawe Lecture in our College, to offer a tribute of respectful thanks to the generous lady by whom it was founded, the widow of Mr. William Wood Bradshawe, a Fellow of this College, who practiced at Andover and at Reading, and died in 1866. He was a home-loving and studious man, who diligently cultivated his mind in both literature and science, and his widow, who survived him fourteen years, being desirous to testify her gratitude for the happiness which she owed to him, bequeathed a thousand pounds to this College, and as much to the Royal College of Physicians, on the condition that each should institute a lecture, to be given annually, and to bear his name. She desired that the lecture should be on some subject connected with medicine or surgery, and that the choice of the lecturer should rest with the President of each College for the time being. She made no stringent regulations, and seems to have wished only to maintain her husband's name in good repute by associating it with the advancement of the science which he loved.

In my endeavor to fulfill her exemplary wish, I have chosen the subject of "Some Rare and New Diseases." I hope to be able, in speaking of them, to illustrate a part of the natural history of disease which I think is too little studied—that part, namely, which relates to the variations and the combinations of diseases in hereditary transmission. Besides, both in the choice

of its subject and in the whole enterprise of giving this lecture, I have looked for an opportunity of promoting pathology by promoting pathological museums, a motive which I am sure will be pardoned though I am conscious of its being in some measure personal for I have spent so much time and thought in museums that I feel as if, in their greater utility, I should myself become more useful.

Now, first, respecting rare diseases, there may seem no want of opportunities of studying them. Our journals and the proceedings of our societies are full of the records of rare cases; many collections of such cases have been published, and there are many rare specimens in every museum. All these have that kind of attraction which belongs to everything that excites our wonder, but we too seldom let the wonder have its proper consequences; we too seldom let it provoke our curiosity so far as to make us search for the meaning and reason of the rarity. There is a question we should often ask ourselves—Why is any disease rare? At least, why is any rare which does not depend on some accident or some rarely occurring extreme cause? I shall try to suggest answers which may be, in some instances, sufficient; but I fear that, in more instances, if I can be useful at all, it can only be by suggesting how answers may be found.

First, there is a difference, though it may seem only a verbal one, between rare cases and rare diseases. A case may be called rare when, though it is evidently one of a common disease, it differs from the usual type or standard of that disease in some one or two features. Thus it is a rare case when a common disease is found in an unusual place; as an epithelial cancer on the upper lip, or this fatty tumor on a finger: or in unusual quantity, as in this large cartilaginous tumor on a femur; or again, a case may be rare in respect of the time of its occurrence. For instance, I have lately seen cancer of the rectum ending fatally in a lad of eighteen, and scrofulous abscess in a man of eighty; and many of us must have seen instances, though they are rare (and these are very important in the history of diseases), in which manifestations of syphilitic inheritance, usually evident in infancy, have not appeared till the time of youth or even of adult age; or cases may be very rare in respect of accidental

complications or of the absence of some usual symptom. But of all these and other rare cases the number and variety are so great that it would be impossible to deal generally with them, except as with mere story-telling. It would be very useful if someone would collect hundreds or thousands of them, and arrange them, even though it were only under such headings as I have just indicated. But even as they are singly and in disorder, let me say that we ought not to set them aside with idle thoughts or idle words about "curiosities" or "chances." Not one of them is without a meaning; not one but might be the beginning of excellent knowledge, if only we could answer the question, Why is this rare? or, being rare, why did it in this instance happen?

But, because of their number and variety, I must pass by rare cases and will speak only of some rare diseases—that is, of some diseases which are rarely seen, and yet occur in a sufficient number of cases, and with sufficient uniformity, and sufficient difference from other diseases, to permit of their being described in general terms, and to justify their being called by distinctive names. And of these again, for they are numerous and various, I shall select that group which seems most attractive; the group of those, namely, of which there seems reason enough for believing—First, that they were, lately, new diseases and have become more frequent; and, secondly, that they are due mainly to morbid conditions changing and combining in transmission from parents to offspring. I say due mainly. It is certain that changes in the external conditions of our life have influence on even those morbid conditions which are most personal; but this influence is very hard or impossible to trace in the cases which I have in mind, and it may to-day be neglected though not forgotten. For, in all those cases, the personal factors and those of which alone I have to speak are more potent than the conditional, the inner than the outer. We call these diseases constitutional, diathetic, or by similar names; but the chief fact in them is that they, or the necessary previous states or predispositions to them, are inborn and inbred.

Let me first show that there is reason enough for believing that some rare diseases of this kind were recently—say within

the last century—new ; and that more recently, though still rare, they have become more frequent. There is, I know, a general unwillingness among pathologists to admit that there are new diseases of this kind ; and this unwillingness is often just, for many diseases that may seem new have probably existed long and been overlooked ; they may be new in knowledge, but not new in fact. Bright's disease and Addison's disease were new in the sense of having first been well observed and described by those whose names they bear ; but no one would venture to say of diseases so difficult to detect, as these used to be, that they did not exist long before they were well observed. We could as well believe that embolism never occurred till just before it was found out, or that right-side hemiplegia used not to be associated with aphasia. These things were old before they seemed to be new ; but how long they had existed neither records nor museums can tell. It would be, indeed, very interesting if we could tell the time and manner of first appearing in the case of many diseases which are now common ; but it is scarcely ever possible. And yet, if you will allow me a digression, let me show what in some instances museums may supply, and what I hope they will in the future supply much more largely. Here are specimens of typhoid ulcers of the intestines preserved by Hunter. Few things have been more important in the knowledge of fevers than the clear proofs of the distinction between typhus and typhoid given by Sir William Jenner in 1850. It was one of the best life-saving discoveries of this century ; before it both diseases were at least partially misunderstood, and neither was so well treated as now. Since the distinction between them was discovered it has been possible to trace in old records cases probable instances of both ; but there is nowhere so clear evidence of the occurrence of typhoid a century or more ago as is given in these specimens of Hunter's, preserved without name or history ; not unobserved, and yet not in any fair sense understood. Now in this, as in many things, Hunter set us a good example. He did not think these things unimportant which he did not understand. He was a thorough naturalist, and kept specimens of everything in his field of study which, though not yet, might become useful.

But, however much of what seems to be new we may justly

ascribe to our previous oversight of what was old, there yet seems to be evidence enough that new diseases are in progress of evolution, and that, as I have said, some of the rare diseases of which I have to speak are the earliest instances of the new. Good evidence of this kind is to be found, I believe, in the peculiar joint disease discovered by M. Charcot in association with locomotor ataxy, and in the disease of bones to which I have given the name of osteitis deformans. Neither of these, I believe, was described till within the last few years. They may have been overlooked, but to believe this we must believe what is very improbable. We must believe that all the most acute and observant practitioners before our time overlooked, not merely obscure and transient diseases, difficult to study, but cases which lasted many years and gave constant great distress, and were manifested in signs so plain that they could be recognized in the shape and gait, in the posture and whole aspect of the patients, in strangely large heads and curved limbs. And, further, we must believe that the morbid anatomists before ourselves overlooked changes of structure of the largest, most obvious, and most striking kind. It is, surely, very unlikely that they who studied and recorded such cases as those of extreme rickets and mollities ossium, and even called it rachitis adulatorum, should have left unnoticed the cases of these two equally and somewhat similarly disfiguring and damaging diseases. This great improbability is strengthened by that which I believe to be a fact—that we have none but recently collected specimens of either of these diseases in our museums; not even among the crowds of bones and joints collected by our predecessors.

In twenty-six years I have seen twelve well-marked cases of the osteitis deformans, and about as many in which it was only partially evident. In the last six of these years I have seen seven of these cases, and others have been published, and yet I cannot find evidence that the disease was ever seen by any of those who had practice like my own; Brodie and Stanley, who saw as many cases of diseased bones as any surgeons of the last generation, had seen no case but which I showed them more than twenty-five years ago in the patient from whom these specimens were taken. Moreover, I cannot find an old specimen in our museums, or a repre-

sentation of one in any book of plates, or a description of one in any catalogue. This might not seem very strange in the case of specimens troublesome or expensive to keep, or in such as are said to "show nothing." But these are very striking deviations from health, very plainly to be seen, and dry bones are neither costly nor troublesome to keep. We have large numbers of them collected by Hunter, Howship, Langstaff, Liston, Cooper, Stanley, and others, who collected not merely illustrations of diseases well known to them, but whatever was curious, whether it was understood or not. They would have looked on these bones as gems.

I might repeat this statement in nearly every particular concerning M. Charcot's disease. I believe there is not an old specimen in our museums. There is not one in the Musée Dupuytren; I cannot find a notice or an illustration of one. And yet this disease is now so far from being very rare that Dr. Buzzard has had nine cases under his eye at one time, and several have in recent years been shown in our societies.

Let me adduce one more instance of what I believe to have been new diseases within this century, though the museum evidence is not so strong as in those of which I have been speaking. Many believe, and, I think, quite rightly, that instances of typical gout, such as gained for it the name "podagra," have lately become comparatively rare, and that a large number of less acute diseases, regarded as forms of incomplete or suppressed gout, are much more frequent. It may be that some or many of these lesser forms were always as common as they are now, but were overlooked or were not distinguished from other similar ailments. But here is a specimen of the effects of phlebitis of the femoral and external iliac veins, which, with its history, may tell that gouty inflammation of the veins was fifty years ago, if not a new disease, yet a much rarer one than it is now. Sir Henry Hallford saw as much of gout, I suppose, as any man that ever lived; for he was for many years, during a very luxurious period, in the largest practice among the richest people in this town. He gave an account in 1832 of what he called phlegmasia dolens in the male. The disease so-called was common and well-known in women after parturition; so that, to justify his essay as a record of cases hitherto unobserved, it was enough for him to speak of

phlegmasia dolens as occurring in men. He speaks of it as having been not long before regarded as "immediately occasioned by a deposit of milk;" but that "being tested by a more exact pathology," it was now attributed to "an inflammation of the veins of the pelvis." And he says, "he was much mistaken if he had not seen three instances of it" in men "within the last few years." He then relates the case of the nobleman from whom, several years afterwards, this specimen was taken by Sir Astley Cooper—an admirable example of phlebitis, which we may be nearly sure was gouty, showing the changes in the blood-clots and in the walls of the veins during many years.

At the present time, phlebitis of this kind in the male can scarcely be called a very rare disease. There are few, I imagine, in large practice who have not seen many more than three cases within the last few years. So, we may believe, I think, that the disease has become more frequent in the last fifty years; and may suspect that not long before Sir Henry Halford's time it may have been a really new disease. It is hard to believe that it could have been overlooked. Its characters are strongly marked and evident to both eye and touch; it is a very painful, disabling, long-enduring disease, often recurring, sometimes observed in several members of the same family, and commonly leaving the affected limb large, heavy, and clumsy for many years. Could this have been overlooked when similar limbs, in consequence of an allied, though not the same disease, were known and described in women, and while, as it happened, the subject of phlebitis, in its traumatic and pyæmial forms was being very carefully studied? For there was a form of phlebitis much more common in the last century than in this; the phlebitis that occurred after bleeding. Hunter had studied this very carefully, had written on it, and shown it in these specimens; and after him, both this and the phlebitis after amputation were well-known. Especially after the beginning of this century the phlebitis after amputation was thoroughly worked at. It was only three years before the publication of Sir Henry Halford's essay that Mr. Arnott's renowned paper on inflammation of the veins was published in the *Medico-Chirurgical Transactions*. In the same volume are the chief papers by Dr. Robert Lee, on

phlegmasia dolens ; and he describes cases of phlebitis associated with pelvic cancer ; but not one spontaneous phlebitis is mentioned by either of them.

Now, I think that in all these facts there is enough, not, indeed to prove, but to justify the belief that we have here examples of disease which have appeared in this country for the first time within the last century, and which have since become sufficiently frequent, and acquired sufficiently constant and distinctive characters to be described in general terms and called by new names. Let me repeat ; these are not the diseases hard to be discerned. They are so well-marked, so distressing, so long-enduring, and both during life and after death so large and distinct in all their characters that it seems impossible that, unless they were very much rarer than they are now, they could have been overlooked.

I think it probable that there are other examples of the like kind ; but I do not know them, and would rather go on to the second part of my subject—namely, to show the probability, or at least, to justify the hypothesis, that these diseases are among the instances of the results of morbid conditions, changing and combining in transmission from parents to offspring.

It should hardly be necessary to argue that changes of type in inherited diseases—changes which may be compared with the variations of species or of varieties in natural history—do take place. Yet I venture to think that many of us are prone to think too little of these variations ; to regard them as rather unmeaning exceptions, or as the results of some unusual external conditions diverting diseases from their customary course.

It will be better for us if we study, in pathology as in natural history, varieties as much as species : changes as well as the more stable forms. Types of disease there are, standard forms, and the tenacity with which they are maintained—some, even, from pre-historic times—in all the varieties of the conditions of our lives is one of the most remarkable facts in all pathology. But they are not unalterable. Types vary in diseases, as in species ; even in the diseases which depend least upon external conditions, and most on the qualities which are transmitted by inheritance.

Let me give some reasons why this must be.

1st. An exact likeness is never transmitted by inheritance ; neither an exact likeness of either parent, nor an exact composite of both. This is evident enough in features, size, weight, and all that we can observe in external things. If we could be exactly endoscopic we should observe equal variation within ; the same want of exact likeness in liver and lung, and, I venture to say, in blood and lymph and plasma, and whatever goes to make the whole person, healthy or diseased. The inheritance of likeness in disease, or liability to disease is, indeed, clear evidence of the transmission of likeness in the very minutest structure and composition. But the likeness is never perfect, it may in different persons deviate this way or that ; it may vary towards disease or back again towards the healthy type ; but it is never perfect, and in successive generations its degree of unlikeness may increase to a great width of difference.

2nd. The certainty and probable extent of this variation must seem the greater if we consider the mingling of diathesis, and of all dispositions and liabilities to diseases in transmission from and through both parents. Consider the difficulty of maintaining the "breed" in any of the varieties of the species domesticated or cultivated by us, in horses or dogs, in pigeons or in seedling plants ; the care that both parents should be of the same blood, or the same race, and that their produce should be raised in all due conditions ; and then consider how numerous and wide, in spite of all this care, are the deflections from the type. With these facts before us we cannot imagine that diseased conditions should often be transmitted singly and unchanged ; it is, surely, not likely that disease should be transmitted with more fixed conformity to type than normal compositions are. Hybrids and mongrels must be even more common among diseases than among species and varieties.

3rd. And, in thinking of the variation of diseases by combining or convergence of inherited qualities, we may not limit our thoughts to a single generation. It is reasonable to believe that instances occur of reversion, in which diseases or tendencies to disease may appear after a lapse of many generations. Such, I expect, are some of the cases in which leprosy has been seen, even of late years, in this country in persons never exposed to

any of its external causes ; and to the like of this we may refer, I think, some of the rare cases which defy all efforts to refer them to any combination of types of disease now prevalent.

Now, I half wish that I could escape from the necessity of testing my doctrine by my facts ; but as I have often asked myself, so others may ask, how can the cases of rare disease of which I have been speaking, be explained as the results of morbid conditions changing and combining in transmission from parents to offspring. In the phlebitis we may often trace a variation from the customary type or standard of the very old and heritable disease, gout. In many cases its relations to typical gout are clear. The patients are members of gouty families, and in many of them other signs of gout are evident, either coincidently with the phlebitis or at other times ; it has, in short, all the evidences of being one of the many forms of what is called "incomplete gout." But, for a reason why this variety of gout settles (if I may so speak) in veins, especially in those of the lower extremities, I can only guess at a convergence of inherited dispositions both to a modified form of gout, and to some condition of veins rendering them, among all the structures, the most sensitive to the gouty process. Certainly it is not accident which determines the disease to the veins, for this disease "runs in families." I know of its occurrence in two brothers and three of their cousins ; and I have heard Sir Charles Locock tell of four sisters who had phlegmasia dolens, and whose father had crural phlebitis.

I am conscious that this is little more than guessing, and for the osteitis I must guess still further ; or, rather, let me say that, to the furthest bounds of propriety, I must exercise that use of the imagination which may happily discern a way towards the truth. I imagine, then, that a likeness of the osteitis deformans to several other diseases may indicate a combination, in definite proportions, of transmitted dispositions to those diseases ; a combination which has become possible by changes of the type of one or more of them. First, it shows some relationship to mollities ossium and rickets, for, though it is an inflammatory disease, which they are not, yet the softening which permits of the curving of the bones is distinctive, and hardly occurs in any other form of inflammation of bone in middle or latter life. And,

again, the relation of the osteitis to rickets and mollities ossium is notably indicated in the porous thickening of the skull, which is found in some instances of them all, and which is well marked in our specimens of genuine rickets from erroneous diet in young lions and young monkeys. Further, there appears some relation to gout, for some of the cases have known inheritance of gout, and instances are sometimes seen, in typically gouty persons, of a single bone having all the characters of the osteitis, though all the other bones appear healthy. Such a one is this femur, for the opportunity of showing which I am indebted to Mr. Bowlby, of St. Bartholomew's. There is a likeness, also, it may be said, to the osteo-arthritis and other forms of rheumatic gout in the remarkable maintenance of good general health during even many years of a painful and crippling inflammatory disease; and, further, there appears some relationship to cancer in the singular frequency with which cancer or sarcoma occurs in the healthy bones or other parts of those who have suffered for many previous years with osteitis deformans. •

Thus, I imagine, by inherited dispositions, accumulating and combining or converging in definite proportions, this disease may be produced. I would try to imagine the genealogy of M. Charcot's disease, but that I have too little clinical knowledge of it. I can only suggest a combination of osteo-arthritis with syphilis chiefly localized in some spinal nerve center; but I believe far better suggestions may be made by those who, suspecting a combination of diseases rather than many radiating from one source, will carefully study the essays of Professor Charcot and Dr. Buzzard's admirable clinical lectures on Diseases of the Nervous System. Besides, I may seem to have guessed already more than enough. Let me, therefore, say that even if my guesses are wrong, my error cannot weaken the probability of the belief that these and rare diseases of like kind are instances of settled varieties of diseases, severally due to variations and convergence of morbid conditions in hereditary transmission. And if this be in any measure true, or even not more than a reasonable hypothesis, then it must be of great importance that we should know much more than we yet do of the variations which, in progress of time, diseases, or certain examples of them, may

undergo ; of their deviations in a gradually increasing number of instances from typical or standard forms ; their acquirement in those instances of other comparatively fixed and long-abiding characters ; of the occasional disappearance of old forms of disease, and the evolution of new ones. Such variations in diseases should be studied as Darwin studied the variations of species. Let me be clear in saying as Darwin studied ; for in the pursuit of new knowledge he may be a model to all, as he has been to me so far as I could imitate him. He, as I know, would have studied these things, not by deduction, as from a law exactly formulated and from which he could trace the course of every change, but by a most careful collection of facts, facts to be seen in specimens and read in full records, and stored in museums, and by a study as complete for every case as if no law of evolution had ever been discovered.

Let me add that the study of these variations of diseases is not one of mere pathological curiosities. It may be of great practical utility ; let me show how, if only that I may provoke some to pursue it vigorously to whom mere pathology is not attractive. We hear much, and often, of the uncertainty of medicines ; of disappointments in the use of this or that supposed remedy ; and substances which have long been in good repute for the treatment of this or that disease are spoken of with disrespect. It need not be questioned that in many cases the belief in the utility of medicine has been maintained by completely erroneous observations. Such was the belief in the utility of infinitesimally small doses of anything ever yet swallowed. And other beliefs less evidently absurd may have been nearly as ill-founded. But there are many of which this is not to be said. It cannot be doubted that bromide of potassium is often very useful in epilepsy ; yet sometimes, as we say, it fails ; or that guaiacum is useful in some cases of chronic rheumatic arthritis, and is in others very disappointing ; or that arsenic sometimes does not do good in cases of lymphadenoma. I suppose there is not a medicine in the *Pharmacopœia* which does not sometimes disappoint him who gives it hopefully, not one which is not, therefore, spoken of with contempt or blame, as if it were a responsible agent convicted of default. But here is an unfair im-

putation. It is not these medicines which are in fault, but ourselves. That which some call the fallacy of therapeutics is generally the fallacy of diagnosis. To state the facts roughly, we suppose cases to be alike which are really different; and, very naturally, the medicine that does good in some of them is useless in others. For example, in the group of cases which I chiefly have in view, we do not always discern when a disease has varied so far from its usual type that it is no longer amenable to its usual remedies. A better diagnosis must precede a better therapeutics. We need not only the diagnosis between diseases essentially different, but that between the different and varying forms of each of those which we call by a generic name; and beyond this, we need a more exact power of what may be called analytic diagnosis; for there are few simple cases, and in those which are not simple we need to be able to discern all the components, and the proportions in which they are mingled or combined. Better treatment will follow better diagnosis, and better diagnosis will certainly follow a more exact pathology.

Let me illustrate this with an instance which is besides of some interest in the study of the variations of transmissible diseases and of the utility of museums. Questions are often asked as to the changes which syphilis may, in course of time, have undergone; and, especially, whether internal organs were always, as they are now, liable to its attacks. It is hard to answer such questions on the evidence of any existing records; indeed, I might cite the whole history of syphilis as an instance of the insufficiency of records for the tracing of the natural history of diseases. But here is something suggesting what museums may do; a portion of muscle preserved by Hunter, and at least a century old, in which are morbid changes which may be safely referred to syphilitic gumma. Probably similar evidence may be found in other museums, and there are other facts significant of the existence long ago of these internal syphilitic diseases, as well as the improved treatment following better diagnosis. Fifty years ago, at the beginning of my professional studies, it was the custom, as it long had been, to give mercury not only in all recognized syphilitic cases and in most acute inflammations, but in a large number of cases of which one could scarcely say more than

that they were all chronic and all obscure. Especially there were many such cases of what we considered chronic inflammation of the eyes, and of the brain and spinal marrow, the liver, and the testicle. To all of these cases it was customary to give mercury, till, as one said, "the mouth was touched," and thus some were cured, and some uncured, and some harmed. The cures were enough to keep the mercury in such good repute that it was given more and more generally; and then the disappointments, as they were called, became too many, and the mercury was blamed, and was almost disused for chronic inflammations. But, meantime, a more exact pathology, a pathology more exact both in its morbid anatomy and in its clinical studies, was discovering the previously unsuspected syphilitic diseases of internal organs; and with this better diagnosis a more judicious use of mercury, and good reason to believe that the chronic and obscure cases which mercury used to cure were those of syphilis overlooked. The case is an exemplary one of the relations between the true pathology and the right treatment of diseases, exemplary not only for encouragement, but for method of study; for the study was both clinical and anatomical, in the living and in the dead, with records and with specimens. Such must be our study of all the cases which I have chosen to speak of—the cases in which diseases deviate from their usual type, or combine in various proportions, after the manner of hybrids and mongrels or new chemical compounds. But there are some rules in study which are especially applicable to these cases.

1. We should very carefully study all cases which are not according to an admitted type. We should study all exceptions to rules; never thinking of them as unmeaning or accidental. Especially, we should never use, in its popular but wrong translation, the expression "*exceptio probat regulam*;" as if an exception to a rule could be evidence that the rule is right. If we use it, let this be in its real meaning; translating it, as surgeons should, that an exception probes a rule, tests it, searches it—as the Bible says we should "prove all things"—to its very boundary. In this true meaning the words may be an excellent motto for the study of all diseases that deviate from types.

2. We should look out for indications of the existence in the

same person of two or more morbid conditions or dispositions such as may be derived from both parents or from several ancestors. For, as in plants and animals there are hybrids and mongrels, or, as in chemistry, many compounds and mixtures, so are there in diseases. We see them in the multiform varieties of what we have to call rheumatic gout; in gout crossed with scrofula, or syphilis crossed or mingled with scrofula or with gout. It is often not difficult to discern some of these combinations among our cases, and I know few things in practice more useful than to be able, even in some instances, to adjust our treatment to the proportion of each disease in the compound. But we may be sure that there is much more to be learned in this direction; and it is best to believe that we rarely have to do with a simple and unmixed morbid constitution. There are few worse habits in practice than that of commonly saying of our case "It is all gout," and of another it is all scrofula, or all syphilis. We might as well say of any Englishman that he is all Norman, or all Anglo-Saxon, or all Celt. We may, indeed, sometimes see persons who appear to be as types of races unchanged in many centuries, but in practice we had better study every man as, for better or worse, a composite of many ancestors.

3. We should have for all these cases a much more complete and exact study of all the personal conditions of disease than is now usual. Of course, this should include all that can be learned of each patient's family history; though there are few parts of medical inquiry more fallacious than this often is; and at the best it will need, besides, the exactest study of the patient's self. Perhaps the brilliant success which has been achieved by the recent studies of disease-producing organisms or other materials acting on us from without—a success not equalled in any other field of medical inquiry—has made some think too little of those changes within ourselves which occur in such ordinary conditions of life that they may be called spontaneous. Yet these are not less important in the production of diseases, and these must be studied; just as in agriculture soils must be studied as well as seeds. This is true even in respect of those diseases whose essential causes are most evidently external, even of those which are due to specific contagia; their germs of seeds, if I may so speak, will

not germinate in an unfit soil. I suppose there is not a day in which most of us do not inhale or come in contact with the germs of some frequent or contagious disease; but they do not germinate in us any more than do the seeds of tropical flowers in our streets or in the fields to which the wind scatters them; we do not offer the fitting soil. And even among those in whom they do germinate, the product varies according to the soil. And the study of this soil, this living soil, is yet more necessary in respect of diseases which come, in part or wholly by inheritance; for it is in each as personal and distinct as any other constituent of personal character, and the study of it must be intimately personal, with an exact analysis of every disposition to disease. The aim of pathologists in this direction should be for knowledge like that of the keen family practitioner, who, as he says, knows the constitution of every member of a family.

All this is equivalent to saying these variations in diseases must be studied both in practice and in scientific pathology. It is hopeless that either a practitioner who thinks lightly of pathology, or a pathologist who thinks lightly of observant practice, should do more in the study of these questions than attain to that measure of partial truth which is often as deceptive as error. Each must be tested by the other. The living and the dead must be alike and equally studied; and the dead must be studied in exact observations, with accurate records, and especially with museums.

I need not dwell on the value of good records, good descriptions, and good photographs, or other representations of diseases; but they never have been and, probably, never will be, enough. We need with them, museums, in which changes of structure may be preserved for repeated and revising study and comparison. For instance, in regard to the group of diseases of which I have been speaking, we ought to have in our museums specimens in which we might study all the gradations of change of structure from type to type, all the changes due to mingling of forms, all varieties of diseases, all hybrid forms. We need to be able to study all these things, and the naturalist or the comparative anatomist needs his specimens; not only for teaching what is known, but for continued re-examination and continued additions to his own knowledge.

And for complete study we must have large museums showing the coarse naked-eye characters of diseased structures. I am sure no one will think me likely to depreciate the microscope; it has added, and will continue to add, more than can be told to our knowledge; but it has not diminished the value of other evidence; and in pathological anatomy, as in all our sciences, there are many instances in which the naked eye sees facts with more meaning than the microscopic one can.

This is especially true in the case of morbid structures resulting from nearly allied diseases, and therefore especially true for those of which I wish to urge the study. In morbid structures as in species, the nearer the alliance the less are the differences to be found in minute structures, and the more must we depend for distinctions on the study of visible shapes, and sizes, and constructions. I suppose that we could not with the microscope distinguish the human skeleton from that of the monkey; certainly, we could not distinguish one skull from another in all those varieties of national form which are collected in our museum. And so it is in many instances of morbid bone formation. I doubt whether microscopic examination could detect characteristic differences in each of this group of specimens. With the naked eye it is sure that this is a syphilitic node on a tibia, and this a growth beneath a chronic ulcer over the shin, and this a pedicled exostosis, or ossified cartilaginous outgrowth from the shaft of a long bone, and this an instance of osteo-arthritis, and this a portion of the skeleton of an osteo-sarcoma or osteoid cancer.

Moreover, it is to be observed that in morbid structures, as in those that are natural, in the same proportion as the aggregated elements of embryonic structures acquire their complete and final form, so do the bodies composed of them acquire distinctive shapes and methods of construction plain to the unaided senses. The ova of many species may seem alike both in outer shape and in their component elemental structures. But in proportion as these structures are differentiated, and developed into their higher and abiding forms, as into nerve fiber, and muscular fiber, and the rest, so the larger characters of even the nearly allied species—the characters of shape, and size, and appropriate construction of the whole body, and of each part of it—become more and more

different; and these constitute the real distinctive characters of each species.

And so it is in morbid products. The acquirement of distinctive shapes and methods of construction coincides with the development of elemental forms. For example, in these sarcomata are only the lowest elemental structures, round cells, spindle cells, and shapeless plasma; and the masses thus combined are shapeless, featureless, decisive by negation. But in these fatty, and fibrous, and cartilaginous, and bony tumors, in which the elemental structures have advanced to higher forms, the masses which they severally compose are almost as characteristic and distinct in visible shape and construction as are the several normal organs of the body.

In every case, then, both the largest and the smallest characters should be studied. The naked eye can discern one set of facts, the aided eye another; both are essential to complete knowledge; no one should be content with either, for neither is alone sufficient. So we must have large specimens as well as small ones, and certainly large ones for the study of the gradual variations of diseases as they deviate from typical forms and become variously mingled.

And now, as I come nearer to my term of time, let me, as is customary in certain other places, conclude with an earnest appeal to your liberality. We want liberal contributions, not of money, but of specimens to our museum. We want specimens of many kinds; of course we want whatever is rare, but not these alone; we want some to complete our series of typical specimens; and to keep to the chief subject of my lecture, we want the opportunity of choosing among many of what are called bad "specimens." We are all too ready to collect what are called good specimens as being well-marked instances of the standard characters of diseases, and to put aside as "bad" those which deviate from those characters, just as, clinically, we speak of good and bad cases of a disease. Of course, good specimens, typical specimens must be at hand for the teaching of pupils who have to study illustrations of the accepted descriptions of diseases; but it is among bad specimens, even as it may be among exceptional cases, that those who are past pupilage, though they have

not ceased to be students, may study the variations of disease. I ask the more boldly for contributions to the pathological collection, because of its present satisfactory condition and the activity of work in it. You will soon see it in the repaired and renovated building. Looking at the number and value of the specimens and the wide range of pathology which they illustrate; looking at the interest of the history of our science which is told in many of them; at the memorials of Hunter and Matthew Baillie, of Astley Cooper, Liston, Howship, Lawrence, Hammick, Ferguson, Hilton and many more; looking forward to what the museum will tell of the researches and skill of those who are still with us, and among whose names I venture to feel sure, Mr. President, that none will take precedence of your own, while men study the specimens with which your skill and just audacity in operating have enriched the series of diseases of the ovaries and uterus: looking at all these things, and then at the perfect order and condition in which the specimens are preserved, I feel that the collection is one which all we members of the College may feel personal pride in calling our own, and should feel a personal duty to enrich. And its utility is being constantly more appreciated. I have been often made happy by the contrast which I have seen while working at the new edition of the catalogue. While I was writing the last edition between thirty and forty years ago, scarcely a student ever entered the museum. Hour after hour I sat alone; I seemed to be working for no one but myself, or for nothing but the general propriety that a museum ought to have a catalogue, though no one might ever care to study with it. Now, and for some time past, a day rarely passes without many pupils and others being at work in every part of the museum.

All this is good; but much more is to be done. Our museum should be, even more than it is, the center in which all pathologists may find help in searches after that which is not yet known; in such searches, for example as may lead to a complete knowledge of the variations of diseases. For many years, even from the beginning, the anatomical and physiological departments of our museum have been not only a noble collection of specimens, but, through the renown and learning of its conservators, a great

center of teaching. Scientific men, especially comparative anatomists and anthropologists, have known that here, if anywhere, they could find whatever help a museum and a master in those sciences could give. A fortnight ago the president of the Royal Society, presenting one of the royal medals to Professor Flower, said: "Professor Flower has been for more than twenty years conservator of the museum of the Royal College of Surgeons; and it is very largely due to his incessant and well-directed labors that the museum at present contains the most complete, the best ordered, and the most accessible collection of vertebrate structures extant."

It is not for me to praise the pathological collection with similar words. But great as may have been its utility hitherto, we may be confident that it will henceforth be more useful than ever. In the vast increase of biological science it became impossible that one man should be nearly complete in the knowledge of both natural and pathological anatomy. I say impossible. I believe there is not such a one living; if there could have been one it might have been Mr. Flower. Now, we may hope as labors as "incessant and well directed" as his will be devoted specially to the pathological collection.

It is known to many of you that Sir Erasmus Wilson, in his usual liberality, gave the College £5,000, of which the interest should be spent in the promotion of pathology; and he agreed that this would best be done by helping to the appointment of a curator of the pathological department of the museum; and we have an admirable one. Mr. Eve is a worthy colleague and helper of Mr. Flower, excellent like him not only in knowledge, but in that which is even more rare, the love of museums, and of all that belongs to their maintenance and illustration, even to the making of catalogues. In all these good qualities he has distinguished himself at St. Bartholomew's. I believe that we may rely on him for making as good use of the museum, and of all that can be brought to it, that the College shall be the chief center of pathology, even to the furthest point at which it can be studied in specimens of diseased structures. I beg your help that he may be so; and if I shall have helped to-day to this good result, the first Bradshawe lecture in our College will have fulfilled the purpose of its founder.

A RÉSUMÉ OF TWENTY-FIVE CASES OF ABDOMINAL SECTION,
By J. EWING MEAERS, M. D., Surgeon to St. Mary's Hospital, Demonstrator of Surgery in Jefferson Medical College, and Gynæcologist to Jefferson Medical College Hospital. [Read December 6, 1882.]

With a view of placing on record the results in a number of cases of abdominal section, and with the hope of contributing to the information possessed already with regard to these operations, I beg to submit the following *résumé* of the cases which have come under my care.

I have endeavored to present the points, which were regarded of interest, in a concise manner, for this purpose grouping them under different headings.

Of the twenty-five cases of abdominal section, twenty-two were performed for the removal of tumors from the ovary; one was made in a case of encysted dropsy of the peritoneum (reported in the Transactions of this College, 3d Series, Vol. I); one in a case of abdominal dropsy, in which the diagnosis was obscure, and an operation of exploration was made; and one for removal of the child in extra-uterine foetation.

As the case of encysted dropsy has been reported to the College, and as I propose, at a future time, to report the one of extra-uterine pregnancy, I shall present on this occasion a *résumé* of the ovarian cases.

Age of Patients.—In the twenty-two cases the age varied from the youngest, sixteen, to the oldest, sixty-five years.

Nationality.—Sixteen patients were natives of the United States, and six of Ireland.

Social Condition.—Five were single, one was a widow, and sixteen were married.

Duration of Growth.—The duration of growth varied from three months to seven years, counting from the time at which the tumor was recognized first by the patient.

Aspiration, or Previous Tapping.—Aspiration, for the purpose of obtaining a specimen of fluid for examination, was performed in eight cases; tapping, to relieve abdominal distention,

in four. In one case, in which the cyst was very fully distended by fluid, and the abdominal wall was very tense, leakage followed aspiration, and persisted for some hours, despite the efforts made to control it by pressure. In none of the cases, in which aspiration or tapping was performed, did any serious results occur, nor were there any evidences in the operations which followed, of complications due to the previous aspiration, or tapping. In all cases, proper precautions were taken, the patient being required to rest in bed from three to four days subsequent to the operation.

Condition of the Patients at the Time of Operation.—With the exception of two, who were the subjects of malignant disease of the ovary, the condition of the patients was good. All were placed upon preparatory treatment, extending over periods varying from two weeks to two months.

Line of Incision.—In all cases the abdominal cavity was opened by incision in the linea alba, midway between the umbilicus and pubes, the length of the incision varying according to the nature of the tumor and the presence or absence of adhesions. A simple, mono-cystic, non-adherent growth was extracted easily through an opening one and a half inches in length; whilst other tumors, polycystic in character, with numerous and strong adhesions required incisions from four to six inches in length in order that the hand could be introduced into the abdominal cavity, so as to sweep over the external surface of the tumor, for the purpose of detaching adhesions, and also into the interior of the growth to disintegrate its contents, and thus reduce its size. The incisions were invariably closed by the introduction of metallic sutures—iron or silver wire—the needle being carried so as to include the peritoneum.

Adhesions.—In eighteen cases adhesions, either parietal, omental, or visceral, existed—differing greatly as to extent and character. In some instances they were so slight as to be separated readily with the finger; in others, they were very extensive and very firm, requiring some force to effect their detachment, and exposing denuded, bleeding surfaces. In one of the fatal cases adhesions were universal, and so firm as to require a minute dissection to be made, in order to effect removal of the cyst.

In a second case a portion of the parietal surface of the peritoneum as large as the palm of the hand, and embracing the sub-peritoneal fascia, was detached, leaving a broad band of attachment. This was included in three animal ligatures, and the detached portion removed. During the period of recovery, which was not retarded, the patient referred to the position of the exposed surface as a sensitive point. In still another case, an adhesion, in the form of a cord, at least two inches in thickness, and from four to five inches in length, fastened the tumor to the parietes. It was drawn down and a double animal ligature applied before section was made. Hæmorrhage caused by the separation of adhesions has been controlled by the application of carbolized silk and animal ligatures, both ends being cut short, and the ligatures permitted to remain "*in situ*." In some instances, torsion of the vessels has been sufficient to restrain the bleeding.

Character of the Cysts.—Four cysts were unilocular, sixteen were multilocular, and in two, malignant disease existed. In one of the latter medullary cancer involved both ovaries, and in the other colloid disease was present.

Double ovariectomy was performed in two cases.

Primary or Secondary Operation.—In one case the operation was secondary, ovariectomy having been performed thirteen years previously. In this instance the incision was made to the side of the cicatrix of the primary operation, so as to avoid wounding the pedicle of the tumor removed, which was found to exist as a small cord attached to the inner surface of the abdominal wall, and to be of such length as to permit the uterus to occupy a normal position. Elongation and shrinkage of the pedicle has been observed in post-mortem examinations made, in cases in which death occurred some years after ovariectomy.

Treatment of the Pedicle.—In all but one case the pedicle was secured by the application of the clamp; in the case excepted, a carbolized catgut ligature was applied, both ends cut short, and the pedicle was returned to the abdominal cavity. In cases of very short pedicles I have been able always to secure them with the clamp, and in no case was it observed that the traction made to accomplish this produced any harm. In one instance of an

extremely short pedicle, where, in fact, the wall of the cyst was separated not more than a half inch from the uterus, a double animal ligature was applied, which failed to control the hæmorrhage. The clamp was then applied over the ligature, bringing the uterus well up between the edges of the incision. Although the patient had a tedious convalescence, the ligature and clamp came away in good time, and the abdominal incision healed kindly. Beneath the cicatrix the uterus could be distinctly outlined, and after the return of the patient to her usual duties no complaint was made of pain caused by traction upon the organ. In one case only was there noticed a slight tendency to the occurrence of ventral hernia, and this in a young patient who slipped and fell on the icy pavement a short time after recovery from the operation. A good deal of tension of the abdominal walls was felt in the act of falling, and it was thought a slight detachment of the pedicle had occurred. Rest in bed for a few days, with pressure over the cicatrix, relieved the condition.

In nearly all of the cases in which the clamp was applied it was observed that it could be removed safely at about the same time with the last of the sutures, and, therefore, the healing of the abdominal incision was not materially delayed. In one or two cases both sutures and clamp were permitted to remain longer than usual. In favorable cases the first of the sutures was usually removed on the sixth day, and the clamp on the eighth or tenth.

In three cases menstruation has occurred by the pedicle. In all of the cases it took place but once, and did not produce any serious inconvenience. It occurred in one of the cases in which double ovariectomy was performed, two clamps having been applied to the pedicles without difficulty.

Strangulation of the intestine has been noted as being due to the use of the clamp. In my observation of the cases of others, and in my own, I have not met with an accident of this nature. As it has followed likewise the use of the ligature, it cannot be ascribed alone to the employment of the clamp.

The support afforded to the uterus by the attachment of the pedicle to the abdominal walls has seemed, in some of the cases, to have been of benefit, overcoming displacements which were productive of much previous discomfort.

In one of the three fatal cases which occurred, the ligature was applied and the pedicle returned to the abdominal cavity ; death resulted on the third day from septicæmia, and the autopsy showed the stump of the pedicle softened and covered by a grayish slough. This condition of the pedicle was, I think, not a primary condition, but was a part of the general inflammation which pervaded the abdominal cavity, occurring in a case in which the cyst was adherent in every part to the parietes and viscera, and which required minute dissection to effect its separation.

While the tendency of the present day is to return to the use of the ligature as an exclusive method of treating the pedicle, I think it unwise to discard entirely the clamp. The imbedding of the ligature and its subsequent absorption demand a degree of reparative power, which some much debilitated patients do not possess ; in such cases it would appear proper to employ the clamp.

Drainage.—In one case it was thought desirable to secure drainage of the abdominal cavity after operation. For this purpose a large perforated rubber tube was introduced and allowed to remain in position for three days. During this period no fluid escaped, and the symptoms presented by the patient gave no indication of the collection of septic fluids. Of the great value of drainage after ovariectomy there can be no question. Its use is especially indicated in cases in which adhesions of some extent have existed.

Antiseptic Precautions.—In fourteen cases the antiseptic methods were employed in full detail at the time of operation, and partially during the conduct of the after-treatment, the spray being then omitted. The successful results which have attended some of the cases were undoubtedly due to its use. The condition of the patient during the after-treatment was favorably influenced, and convalescence was promoted. Of three fatal cases, one occurred after operation under the system. The tendency of most operators at the present time is to employ a modified form of the system, owing to the fear of constitutional impressions made by the agents employed. The constitutional effect of the carbolic acid has been observed in two or three cases in the condition of the urine ; other than this no symptoms were noted.

It has been stated above that menstruation by the pedicle occurred in three cases. In one a marked impression was made upon the temperature, and the elevation occurring as it did without being accompanied by a corresponding increase of the pulse-rate attracted attention. On the day preceding the appearance of the flow the pulse was 84 and the temperature normal, $98\frac{1}{2}^{\circ}$. On the day of its appearance the temperature rose to 100° , and on the third day reached $100\frac{3}{5}^{\circ}$, then declined to $99\frac{3}{5}$ – 99° , and on the day of the cessation of the flow returned to the normal, $98\frac{1}{2}$ —the pulse-rate in the meanwhile remained unchanged. As the elevation of the temperature occurred after convalescence had been fully declared and the patient was within two days of the period when she would have been permitted to sit up, some anxiety as to the cause existed which was not relieved until its relation to the presence of the menstrual flux was considered.

In two of the cases pregnancy occurred and terminated safely in connection with the development and growth of the cysts. In both, the cysts had attained large size, and notwithstanding the pressure exerted during parturition rupture did not occur. In one, puerperal peritonitis supervened, causing the formation of extensive adhesions, in the other, slight but firm adhesions were found.

In cases under my care recently, quinine has been administered in large doses in the twenty-four hours preceding the operation with a view to obviate shock, and in this respect its use has been attended with success. Thirty to sixty grains, in divided doses, have been given, and in each case so treated shock has been absent. In the preliminary and after-treatment it has also been given in tonic doses.

The duration of the operation has varied from thirty minutes to two hours, in the former time, mono-cystic non-adherent tumors have been removed and the wound closed. The latter period of time has been required to remove polycystic growths, with extensive and firm adhesions and many bleeding points to control. Serious complications during the operation and after-treatment have occurred in but two cases. In one already alluded to the adhesions were so extensive as to complicate seriously the operation and to render the result fatal. In the other, the slipping of

the ligature and the persistence of hæmorrhage for some hours after the closure of the wound complicated the operation. This patient's recovery was slow, two months and a half elapsing before she was able to leave her bed, in which period there occurred in order the following complications—obstinate, uncontrollable diarrhœa, suppuration of hemorrhoids, formation of a large bed-sore over the region of the sacrum, with destruction of the sacro-coccygeal articulation and a condition of blood poisoning with swelling of the left parotid gland. Recovery finally took place, and the patient has been able to maintain herself by her work as a seamstress.

The size of the tumors varied greatly, and the weight from three to sixty pounds.

With one exception all the operations have been performed either in private houses or in a private hospital. One was operated upon in a private room of a general hospital, and in this a fatal result ensued—death, however, could not be attributed to this fact, but rather to the complications which existed in the case. In all cases careful attention was given to the preparation of the apartments, so that the patients should be placed under the most favorable hygienic conditions.

In the cases in which the progress was favorable the patients, as a rule, sat up in bed on the twelfth day, and on the fourteenth were permitted to get out and occupy the lounge or an easy chair. At the end of the third week gentle exercise about the house, and in favorable weather, in the open air was allowed. This exercise was continued daily, so as to prepare the patient, if living out of the city, for the journey home, which was undertaken between the fourth and fifth weeks after operation.

For twenty-four hours after the operation no food was given—at the end of this time, one ounce of milk, with lime-water, if vomiting had occurred, or if there was nausea, was given every three or four hours. In two or three days the amount of milk was increased to two ounces every three hours, alternating with a teaspoonful of beef-juice in three tablespoonsful of water. In some cases the beef-juice was administered instead of the milk from the first. As convalescence advanced additions were made cautiously to the diet, no solid food being given until the sutures

and clamp had been removed and the bowels moved freely by enemata.

Usually enemata of soap water and olive oil were administered on the eighth day and on alternate days, subsequently, until evacuations occurred naturally. The catheter was used every six or eight hours for five days, and then efforts at evacuation of the bladder were permitted to be made by the patient.

When possible to avoid it, opiates were not administered. When required to relieve pain or secure rest, morphia in one-sixth to one-quarter of a grain was given hypodermically.

In the twenty-five abdominal sections death occurred in four cases—three after operation for the removal of ovarian cysts, and one after operation for the removal of the child in extra-uterine foetation. Septicæmia was the cause of death in two of the ovarian operations, and in the case of extra-uterine pregnancy. Shock and hæmorrhage produced a fatal termination in the case of malignant disease of both ovaries in which double ovariectomy was performed.

NOTES ON THERAPEUTICS. By R. L. MACDONNELL, B.A., M.D., M.R.C.S., Assistant Demonstrator of Anatomy, McGill University, Montreal.

Every medical man has his share of the worry and annoyance arising from the treatment of hysterical and allied disorders. He who has an hysterical spine in his practice cannot be happy. He is doomed to be supplanted by the hydropathist, the homœopathist, or the movement cure man. In Montreal, we are constantly hearing of such cases being cured by faith, and, inasmuch as the miracle is much advertised in the evening papers, we are assured of a fine supply of such cases in the future. What bliss it must be for the hystero-malingero, hypochondriac to read the record of her sufferings in a newspaper, her early history, her devotion, her domestic virtues, how many doctors came, saw, and shook their heads. The Weir Mitchell plan of treatment has come to the rescue, though, and will undoubtedly do much to keep the neurasthenic out of the hands of the quack.

The profession in England seem to hold a very high opinion of this line of practice. The "Systematic Treatment of Aggravated Hysteria and Certain Allied Forms of Neurasthenic Disease," was the title of a paper read by Dr. Playfair* to open the discussion upon this subject at the meeting of the British Medical Association at Worcester last August.

Dr. Playfair has had eighteen months' experience of this treatment, and has not only acquired a daily increasing confidence in the value of Weir Mitchell's method, but has had more satisfactory and surprising results from it than he has ever before witnessed in any branch of his professional experience, and now he more confidently undertakes the care of a well selected case of this kind, than he does that of almost any other malady that comes under his notice.

When he talks of the "useless system of drugging with so called nerve tonics," one feels inclined to cry "hear, hear." At the same time that we are giving these medicines, the psychological causes are all at work, "the injudicious and constant nursing, the craving for sympathy, the fact that the sick-room becomes the center of interest for the patient and her friends, the constant discussion of feelings and symptoms." At this period of pessaries, of lacerations, of flexions, which has succeeded the "ulcerated os" period, and now, when every pain, every ache, every passing abnormal sensation, is pounced upon by the gynæcologist as appertaining to his special field of work, it is highly comforting to read the words of one so eminent in that branch of medicine as Dr. Playfair. "It would be a great mistake, however, to conclude that there is any necessary or constant connection between the two. Indeed, although very frequently the nerve state has originated in connection with uterine disease, in a large proportion of the cases I have seen, it has completely overshadowed the original local disorder. I am not sure that I should not, in common honesty, make the somewhat humiliating confession, that, in many instances, overmuch and injudicious local treatment has, in my opinion at least, intensified and kept up the now dominating neurasthenic disorder, as in a

* *British Medical Journal*, August 19, 1882.

case under my care as I write, in which the patient may fairly be said to be suffering from pessary on the brain—so incessantly is she thinking of one or other of the seventy-nine different instruments she has had inserted in the last few years in America and in this country.”

The case best suited for systematic Weir Mitchell treatment is the worn and wasted, often bedridden woman, who has broken down, either from some sudden shock, such as grief, or money losses, or excessive mental or bodily strain, beginning with simple debility more and more yielded to, until at last all power of effort is lost. Coincident with this is the total loss of appetite, the profound anæmia, and the consequent wasting of the tissues.

Then follow the graver forms of hysterical disease, such as paresis, or paralysis, vomiting, disorder of motion, hystero-epilepsy, and many others which constitute the despair of the physician.

The principal elements in the systematic management of these cases are :

1. The removal of the patient from unhealthy home influences, and the placing her at absolute rest.
2. The production of muscular waste, and the consequent possibility of assimilating food, by what have been called “mechanical tonics,” viz. : prolonged movement and massage of the muscles by a trained shampooer, and muscular contractions produced by electricity.
3. Supplying the waste so produced by regular and excessive feeding, so that the whole system, and the nervous system in particular, shall be nourished in spite of the patient.

Dr. Playfair cites four cases to illustrate the class of disease to which this method is applicable, and the uselessness of all ordinary treatment in such conditions. In one of his cases no less than twenty-five medical men had been consulted, this number including the names of many of the most eminent consultants in the country, of itself a sufficient proof that all that the most advanced medical knowledge and skill could do had been tried in vain.

Case 1. A young lady with hysterical vomiting, which she had had for six years. Latterly, she could keep nothing upon her stomach but a single mouthful of milk, and this only when

mixed with whisky; so that in this way she was taking three to four glasses of spirit daily. Weight 63 lbs. In three days after isolation, she was keeping down two quarts of milk, without the aid of whisky. In ten days she was eating with an enormous appetite, and in six weeks she left town weighing 106 lbs., a gain of 43 lbs., and has since remained quite well.

Case II. A girl aged seventeen. Hysterical hemiplegia of four years' standing, during which time she had never been out of bed. Severe cough, which had resisted all medication. No food could be taken beyond milk, a biscuit and an orange. At the end of a month Dr. Playfair drove her out in his carriage, dropped her at the top of the street in which she lived, and made her walk down to pay her parents a visit. She has since remained quite well. The cough ceased forty-eight hours after she was removed, and was never heard again.

Case III. This next instance is an example of the kind of case best suited for this treatment. No definite illness; no simulated disease, but a general breakdown. An invalid all her life; sometimes headache and nausea; at others, spinal irritability, giddiness, etc. Never happy unless seeing a doctor or taking physic. She was wasted to a skeleton. Her chief complaints were nausea, headache, backache, intense nervous depression and timidity (so that she was unable to speak to a stranger), and absolute anorexia; skin dry and rough; menstruation irregular; entirely dependent on chloral and morphia for sleep. Had been nine years upon her back. In six weeks she was walking about. She now plays tennis, goes out to picnics and parties, and enjoys life like any one else.

Case IV. This case must be well known to many members of the profession, since there is scarcely a consultant of eminence who has not seen her during the sixteen years her illness has lasted. Dr. Playfair's acquaintance with the case is curious. He first saw on the esplanade, at Brighton, a remarkable party at which everybody was looking. The chief personage in it was a lady, reclining at full length upon a long couch, and being dragged along, looking the picture of misery, emaciated to the last degree, her head drawn back in a state of opisthotonos, her

hands and arms clenched and contracted, her eyes fixed and staring at the sky. There was something in the whole procession that struck him as being typical of hysteria. She had been dragged about Brighton in this way for ten or twelve years. Dr. Playfair took charge of the case on January 14, 1882. She had exhibited the following symptoms since 1864, when she was first attacked with paralysis of the left arm: complete paraplegia; left hemiplegia; complete hysterical amaurosis. She had been bedridden since the illness began, and had not passed urine spontaneously for sixteen years. There was "awful suffering in the spine, head and eyes," requiring the use of chloral and morphia in large doses. The following are the brief notes from Dr. Playfair's note-book on the day of his first visit: "I found the patient lying on an invalid couch, her left arm paralyzed and rigidly contracted, strapped to her body to keep it in position. She was groaning loudly at intervals of a few seconds, from severe pain in her back. When I attempted to shake her right hand, she begged me not to touch her, as it would throw her into a convulsion." Said to have had epilepsy as a child. Daily and hourly attacks of loss of consciousness. The left arm and both legs are paralyzed. Takes hardly any food, and is terribly emaciated.

The first night she was in the Home Hospital, in Fitzroy Square, she shrieked and groaned so much that no one in the house was able to sleep. On the next afternoon, between 3 P. M. and 11:30 P. M., she had had nine violent convulsive paroxysms of an epileptiform character. The next day she was quieter. On the fourth day she passed urine spontaneously, and the catheter was never again used. In two months she went a sea voyage to the Cape. She now remains in robust health, and joins with pleasure in society.

In the discussion which followed, Dr. Clifford Allbut mentioned a case he had sent to Dr. Playfair from Yorkshire. She was removed to London under chloroform, swung in a hammock. She was cured in about six or eight weeks, then went on a sea voyage, and had been perfectly well ever since.

Dr. H. Bennett (Weybridge) felt inclined to break a lance in

favor of the old Hippocratic doctrine, which referred hysteria in many cases to the uterine organs, especially in young females. He had introduced to the profession a fact now generally acknowledged, viz., that uterine disease, inflammatory and otherwise, was not unfrequently found in virgins. He had, in many cases, cured them merely by getting at the disease, and removing it.

Dr. Playfair in reply, said that he had not sufficient experience of the effect of the treatment in men, although, doubtless, in suitable cases it might answer well. In chorea it certainly did good. Real organic disease is a positive contra-indication. Hitherto none of his cases have relapsed.

AGARIC IN THE NIGHT-SWEATS OF PHTHISIS.

Agaric * is a fungus of the larch. It is known in botany as the *agaricus laricis*, *boletus laricis*, and the *polyporus officinalis*.

It is an old remedy, having been in use in the treatment of the phthisis for over a century. Dahlen used it successfully in 1797. Rayer, of Paris, employed agaric in a large number of cases at the Hôpital de la Charité. A pamphlet was published by E. Bisson, in 1832, containing an account of the results of its use in fourteen cases, as follows: 1. White agaric may be employed with advantage in the treatment of the night sweating of phthisis. 2. In doses of four, six, eight, or ten grains, given at bedtime, for some days, it usually checks sweating, when the patient is not at the same time suffering from diarrhœa. 3. When diarrhœa is also a prominent symptom, the agaric should be given in combination with opium. 4. When the diarrhœa is persistent, and not checked by opium, agaric is contra-indicated. 5. Agaric not only checks sweating, but induces sleep and prevents exhaustion. 6. Even if powerless to cure phthisis, it retards the progress of the case, and relieves the patient of one of the most dangerous and distressing symptoms. Andral, in the Hôpital de la Pitié, used it extensively. The dose employed was usually from six to eight grains, in two pills, gradually increased to thirty-six grains, divided into six pills. On one occasion, he gave a patient first

* Dr. Murrell—*The Practitioner*, November, 1882.

thirty, then forty-eight, and finally sixty grains. It checked the sweating, but caused violent purging. Trousseau usually gave about nine grains at bedtime.*

Dr. Murrell has treated sixty-four cases of night sweating with agaric. In fifteen of these there was cavity of the lung. To ten of the patients he gave pills of three grains of the powder each. The sweating was checked, but the action was slow, and not certain.

The pills of the powder being bulky, he gave to eight patients three-grain pills of the extract of agaric. Each pill was the equivalent of nine grains of the powder. The results were better. To thirteen patients thirty-grain doses of the powder were given. This set up purging. Twenty-grain doses reduced the sweating, and did not cause diarrhœa.

Dr. Murrell concludes that it is a good remedy, and there are times when it may be used to advantage; but he much doubts if it is equal to atropia, picrotoxine, pilocarpine or Dover's powder.

Dr. John M. Young † takes a more favorable view of the drug. He used a tincture of the powder, of the strength of ten grains to the drachm, but the active principle agaricine, in 1-12th-grain doses, was found a more convenient mode of administration.

His conclusions are as follows: 1. Night sweating becomes lessened proportionately to the amount of the drug administered; and if sufficient doses be given, becomes effectually checked or prevented, according to the time of administration. It works well in cases of sweating not dependent on phthisis. In the quickness of its action it resembles atropin. 2. Its effect in sweating is not more marked than its effect in producing sound sleep, and relieving troublesome cough, especially that of phthisis. This is the fact most notable to the patients themselves, a gradually increasing feeling of drowsiness following its administration, in most cases. In one case in particular, the first large dose of tincture of agaricus checked troublesome and painful coughing during the night.

* Agaric has a place in the French Codex. Its preparations are a powder and a liquid extract. A general account is to be found in the *National Dispensatory of Stille and Maisch*.

† *Braithwaite's Retrospect*, July, 1882, p. 72.

Fungus Agarici is mentioned in Quincy's "Compleat English Dispensatory," London, 1749. It is classed as an eccoprotic, and no mention is made of its being useful in any other way. Dr. Grant, of Ottawa, advocated its use in acute rheumatism. His article is to be found in the *British American Journal of Medical Science* for 1862, Vol. III., p. 92.

IODINE IN ERYSIPELAS AND SMALL-POX.

The *British Medical Journal* has published lately, amongst its therapeutic memoranda, statements commendatory of the action of iodine as a paint in erysipelas. Strangely enough, this old practice was given as if it were something new. After a month or so, the author discovered that he was in error in supposing he was the originator. My earliest recollection of erysipelas was seeing a friend's face painted in this manner. All the medical writers whose works are at hand mention iodine in this connection. Fourneau Jordan, quoted by Ringer, recommends blisters or iodine. Tanner ("Practice of Medicine") states that "boundary lines may be drawn on the sound skin with tincture of iodine or nitrate of silver." Smith ("On Diseases of Children") thinks it a better remedy for arresting the extension of erysipelas than nitrate of silver. It should be applied to the margin of the sound skin to the distance of two inches. In the 1848 edition of "Dunlison's Practice of Medicine," Dr. Davies, of Hertford, England, is quoted to the effect that the tincture of iodine, diluted with two parts of alcohol, and applied by means of a camel's-hair brush, is an excellent application.

In the issue of the same journal, of September 30, 1882, Dr. Henry Tomkins writes that it is useful in the above-mentioned modes of application, more particularly the one quoted by Dunlison in 1848. In small-pox, too, he advocates its use. Now, long ago, at least thirty years ago, Dr. Crawford, one of the physicians in the Montreal General Hospital, and a lecturer in McGill College, published an article containing the results of his treatment of small-pox cases by iodine paint, and claiming that it prevented the subsequent pitting.—*Canadian Practitioner*.

THE SELF-LIMITED DURATION OF PULMONARY PHTHISIS. Read in the Section of Medicine at the Annual Meeting of the British Medical Association in Worcester, August, 1882. By AUSTIN FLINT, M.D., LL.D., Professor of the Principles and Practice of Medicine and Clinical Medicine, Bellevue Hospital, New York.

My object in this paper is to show that the pulmonary phthisis may have a self-limited duration ; that, in a certain proportion of cases, this disease ends favorably, irrespective of any appreciable extrinsic agencies, recovery taking place, provided the nature and extent of the local lesions be not such as to render them either irreparable or innocuous. If the doctrine of self-limitation as applied to phthisis be not entirely new, it has, at all events, received as yet very little consideration in medical literature and in medical practice. If the doctrine in this application be true, it has important pathological and practical bearings, to some of which I shall briefly advert.

How is self limitation to be proved as applied to phthisis or to any other disease? Facts pertaining to morbid anatomy and to therapeutics may render the application of the doctrine probable; but, evidently, positive and complete proof can only be afforded by a collection of cases in which the disease pursued its course without active interference in the way of treatment, either medicinal or hygienic, and without notable changes in habits of life, or in any of the conditions under which the patients were situated when the disease became developed. For obvious reasons these requirements for absolute proof are not easily obtained in cases of a disease like pulmonary phthisis. Yet cases involving these requirements occasionally come under medical observation. The hopeful mental state which generally accompanies phthisis sometimes leads patients to trust altogether to nature for restoration to health, and to continue their usual manner of living without any alteration. Some patients do this from a conviction that they have not a malady of sufficient consequence to claim attention, beyond, perhaps, palliative remedies ; and some from circumstances which render it difficult to do otherwise. Again, there are phthisical patients who do nothing in the way

of either therapeutics or hygiene from a thorough scepticism as to the advantage of doing anything.

In 1858, I had collected a considerable number of histories of cases of phthisis, recorded during the preceding twenty years of medical practice, and I was led to examine the collection for those cases in which there had been an arrest of the disease. Twenty-four cases were in this category. The histories of these twenty-four cases were analyzed with reference to points of agreement in the management; I assumed that in the points of agreement must lie the means by which the disease had been arrested, provided these points of agreement were not equally common in other cases in which the disease was not arrested. A striking result of this analytical study was, that in a few cases no appreciable influences, either of medication, diet, or regimen, had been brought to bear on the disease; the patients took no active remedies, and continued unchanged the same habits of living as before the development of the disease. It seems a logical inference that in these cases the disease was not arrested, but that the recovery was owing to an intrinsic tendency thereto. An abridged account of the histories of these twenty-four cases was embraced in a report published in the *American Journal of Medical Sciences*, January 1858.

In 1863, I had accumulated additional cases. The number amounted to sixty-two. The cases were studied analytically in the same way as those analyzed in 1858. In seven cases, no medicinal or hygienic measures of management were employed. The recovery in four of these cases was complete. In three cases good general health had been regained and maintained for a long period, some cough and expectoration remaining. An abstract of the histories of sixty-two cases was published in the *Transactions of the New York Academy of Medicine* for the year 1863.

In 1875 were published, in a work entitled *Phthisis in a Series of Clinical Studies*, the results of an analysis of the histories of all the cases of phthisis which I had recorded during thirty-four years, the number being 670. Of these 670 cases forty-four ended in recovery. Details of the history of each of the forty-four cases are given in the work sufficiently to render evident the

recovery and the correctness of the diagnosis. In addition to these forty-four cases, there were thirty-one cases in which the disease ceased to progress, and remained non-progressive for at least several months, and in most instances for several years. In these thirty-one cases, the phthisical disease was considered as having ended, complete recovery not taking place in consequence of irreparable lesions. As cases for analytical study with reference to the agencies which may have caused the arrest of the disease, these thirty-one cases of non-progressive phthisis seemed hardly less valuable than the forty-four cases which ended in complete recovery. Adding together the two groups of cases, out of the 670 recorded histories of phthisis, there were seventy-five in which the disease either ended in complete recovery or remained for a long period non-progressive.

Of the forty-four cases ending in recovery, in twenty-three there was no medicinal treatment to which arrest of the disease could be attributed. In several of the twenty-three cases there was no medicinal treatment; in the remainder of the cases, the treatment consisted of simple tonics, palliatives of cough, or remedies to meet some other symptomatic indications. Of the thirty-one cases of non-progression of the phthisical disease without complete recovery, in fifteen there was no medication by which it might be supposed the disease had been controlled, and in several no medicinal treatment whatever. The two groups of cases—namely, those ending in recovery, and those becoming non-progressive without recovery—thus furnished about an equal proportion of those in which medicinal treatment was either wanting, or in no degree curative, the proportion in the first group being twenty-three of forty-four, and in the second group fifteen of thirty-one. In respect of hygienic or non-medicinal treatment, in some cases of both groups there was no change whatever in habits of life or other circumstance. In other cases there were changes involving improved hygienic conditions, but in a considerable number the changes were such that a potential influence could not be attributed to them. It is probably correct to say that the changes may have favored the recovery or the non-progression, but that they were inadequate to arrest the disease. In my work is introduced a condensed history of

each of the seventy-five cases, which form the two groups now referred to.

A self-limited duration cannot be inferred from a single case, or from a very few cases, for this reason : the course and termination may have been affected by influences which are extrinsic, but not apparent. In order to obviate liability to error on this score, the number of cases must be sufficient to render it impossible, or vastly improbable, that in all such influences could have been overlooked. It is needless to say that the cases from which the inference of self-limitation is drawn must have been carefully observed and honestly recorded. Another requirement is essential—namely, there must be no room for distrusting the accuracy of the diagnosis. Assuming competency for observation and veracity, the diagnosis in each of the seventy-five cases is attested by the recorded histories, and it will be admitted that the number of cases is sufficiently large for the exclusion of error on the score of unrecognized extrinsic influences. The number of cases might be increased by the addition of those which have come under observation since 1875. This seems to be needless with a view to strengthen the conclusion respecting self-limitation. I therefore, submit, as substantiated by the clinical facts which I have cited, the following proposition—Pulmonary phthisis, in a certain proportion of cases, has a self-limited duration, the disease ceasing to exist after more or less progress of the local affection, all symptoms referable to the lungs disappearing, and recovery, as regards the general health, being complete. The disease is also self-limited in a certain proportion of cases in which lesions remain, giving rise to more or less of cough and expectoration, the persistence of these lesions not being incompatible with good general health and long duration of life.

It is an interesting fact that self-limitation is exemplified in the majority of fatal cases of phthisis. As is well-known, the disease, as a rule, advances not by a continuous progress, but by a series of successive invasions, separated by variable intervals. After each invasion, or, as it has been termed, tuberculous eruption, there is a temporary self-limitation of the disease. I will not venture on a discussion of the question whether this fact be sufficiently explained by the statement that each eruption

of tubercles for a time exhausts the tuberculous cachexia, or whether the fact be owing to the production of successive broods of the bacilli tuberculosis. It suffices to state the clinical fact. The fact suggests a capital object in the treatment, namely, prevention of renewed invasion. The continuous advancement of the disease, as an exception to the rule, is the pathological feature of the so-called "galloping consumption," or phthisis florida.

In the cases ending favorably, which have been referred to as furnishing proof of a self-limited duration, the diagnostic symptoms and physical signs were so well marked, as to leave no room for doubt as to the existence of phthisis. From cases which have come under my observation, I have been led to believe that not very unfrequently phthisis ends by self-limitation without having advanced far enough for the diagnosis to be considered as positive. A patient has had for some time a slight cough, either dry or with a scanty expectoration; there has been some loss in weight, and the body heat is somewhat raised, with, perhaps, spitting of blood. These symptoms, taken in connection with the age of the patient, and, it may be, grounds for suspecting a congenital predisposition, point to a tuberculous affection. But examinations of the chest in such a case may fail to reveal distinct physical signs. Very likely the problem, as regards the physical diagnosis, is to determine whether at the summit of the chest on the right side there are abnormal signs, or only the normal points of disparity between the two sides. There may be found only a subcrepitant *r  le*, or slight pleuritic rubbing, or an interrupted respiratory murmur at the summit on one side, without conclusive evidence of tuberculous solidification. Under these circumstances, the physician either commits his judgment to a diagnosis of incipient phthisis, or as is more probable, he reserves an opinion for further developments. After a short time all the pulmonary and general symptoms disappear. Now, if incipient phthisis have been diagnosticated, the physician concludes that the diagnosis was erroneous. He feels obliged so to conclude, in consequence of the common belief that phthisis does not thus commence and end from self-limitation. But it is highly probable that the diagnosis was correct. Phthisis existed and ended in its incipency. It would be proper enough to distinguish these as

cases of abortive phthisis. If I mistake not, all medical observers of much experience will admit that the foregoing sketch represents a class of cases not extremely rare. That they are not very rare is a fair inference from the frequency with which the traces of an old abortive phthisical affection are found in bodies dead with other diseases than phthisis.

A topic of practical importance is the bearing of self limitation on the prognosis in individual cases of phthisis. The analytical study of my collection of cases showed that, as a rule, in those which ended favorably from an intrinsic tendency, the tuberculous affection was moderate or small in amount, but that there are exceptions to this rule. All observers of much experience will agree that the prognosis in cases of phthisis is to be based more on the general condition of the patient than on the local symptoms and signs. To consider the elements of prognosis would be here out of place, even if time permitted. In general terms, the symptoms which denote tolerance of the phthisical affection, are those which indicate a favorable intrinsic tendency, and, on the other hand, pyrexia, progressive loss of weight, frequency of the heart's action, and anorexia, point to an opposite tendency. Of special importance, in a practical view, is the bearing of the doctrine of self-limitation on the conclusion to be drawn from observations, respecting the agency of therapeutic and hygienic measures in the treatment of cases of phthisis. How many and various are the remedies which have been supposed to have been sometimes curative in cases of this disease! Instances of their apparent curative power have been attested by honest observers. Making the fullest allowance for errors in diagnosis, I cannot doubt the credibility of more or less of these cases. Recovery has taken place under the employment of divers remedies; yet these remedies have so generally failed, that for the most part, they are now obsolete. The explanation of their apparent efficacy is to be found in the doctrine of self-limitation. The disease ended favorably, not from a specific influence of the remedies, but from an intrinsic tendency. This is not saying that the remedies may not have been, to a greater or less extent, serviceable. It may be laid down as a principle applicable to all diseases that, whenever experience has seemed to show success from treatment by a

variety of remedies the efficient cause lies in the disease itself. This principle becomes more evident the more we become acquainted with the natural history of diseases. To accept this principle is not to disparage medicinal treatment. In certain cases of phthisis, as of other diseases, self-limitation is a factor co-working with curative measures, and, as perhaps may be added, sometimes effective, in spite of measures which obstruct its operation. On the other hand, when this factor is feeble or wanting, curative treatment is not likely to prove of much avail. Evidently, in drawing conclusions respecting the curative effect of remedies allowance is to be made for this factor. The extent of its co-operation, doubtless, differs much in different cases, in some being sufficient in itself, and in others either considerable, or moderate, or slight.

The doctrine of self-limitation bears on the climatic and other measures entering into the hygienic treatment of cases of phthisis with not less force than on the employment of drugs. As regards climate, is there a practical theorem more perplexing to the practitioner of medicine than that of selecting the best resorts for phthisical patients, provided the selection be made on the basis of an impartial consideration of the reported results of climatic agencies in different situations? Underlying the exaggerations on the one hand, and on the other hand the depreciations of particular climatic resorts, founded on the different results in a few cases, is the factor of unknown power, self-limitation, the existence of which is generally ignored. Here is the explanation, at least in part, of the discrepancies of testimony concerning the results of climatic influences in different situations.

The extent of influence attributable to self-limitation in phthisis is by no means as yet ascertained. There is ample room for observation bearing on this point of inquiry. Impressed with the importance of clinical studies having this direction, I cannot forbear the remark that they promise more in the way of practical utility than has hitherto been derived from the discussion of the histologico-pathological questions which, of late years, have engrossed so much attention and occupied so large a space in medical literature.

SOME OBSERVATIONS ON THE USE OF THE TAMPON IN THE
HÆMORRHAGE OF ABORTION. By RUFUS W. GRISWOLD,
M.D., Rocky Hill, Conn.

The authorities of fifty and more years ago, in advising us as to the treatment of hæmorrhage in cases of abortion, made conspicuous mention of plugging the vagina, as one of the most potent and certain means of arresting the too copious and dangerous discharge of blood. Of course, other methods were also mentioned; but it is not a purpose of this paper to consider those other methods, but to remark somewhat on the procedure of plugging, the modes of its performance, and the materials used.

The reader who chooses to consult some of the obstetrical writers of two to three generations ago, will find that Denman mentions "lint, sponge, or any soft substance, wet with spirits of wine, or some astringent liquor," as the material for a vaginal plug in flooding; that Burns mentions tow, or a soft napkin; that Dewees recommended a soft sponge wrung out in pretty sharp vinegar, and of a size to fill the vagina; that Leishman endorses this as one of the most simple and effectual of ways and materials; that Churchill advises a silk handkerchief or tow as better; and that other writers mention soft cloths, handkerchiefs, cotton or sheep's wool, etc., for the purpose—the object in all being to so stuff the vaginal canal as to coagulate the blood; and thus prevent its passage from the uterus. This teaching, which has come down to, and been pretty generally accepted by, the profession of the present period, has of late been put under sharp review by some modern authors, and the material and methods subjected to severe criticism. Prof. Skene, of the Long Island College Hospital, says he has abandoned vaginal plugging altogether, in the flooding of abortions, because it controls the hæmorrhage only in part, and seldom completely, is troublesome both to physician and patient to use, and must be often renewed, because of the danger of septicæmia. There is a deal of truth in these reasons thus given. A complete control by the ordinary vaginal tampon, as ordinarily applied, is not to be had; in the

majority of cases, it will serve the purpose of saving the patient's life ; but it is certainly attended with the risk that in some cases it will so far fail as to leave the life in great danger ; and as to the troublesome part of it, it is positively not always an easy matter to thoroughly fill the vaginal canal with any of the materials herein alluded to, to the degree of entirely arresting an active flooding ; nor can the procedure be always gone through with without a considerable amount of suffering by the patient.

But in abandoning this mode of practice, it is broadly open to question whether the methods adopted by the professor instead are not fully as uncertain as those he condemns—they being first to apply an outward compress secured with a bandage, and if this fails to keep the bleeding within the bounds of safety, to then tampon the cervix ; for, in the first place, while it might answer to trust to a compress over the vulva in some not very sharp cases, so much under the hand as to be easily seen at very limited periods of time, as, for instance, an example in hospital, or one just around the corner, it is certain that no discreet practitioner would feel himself justified in trusting a bad job of the sort, which he could not see again in several hours (as must frequently happen in practice), to any sort of diaper tied on outside the door, where it would simply serve the purpose of absorbing the blood, in the same manner as it would absorb a discharge from the bladder, but would not stop the discharge ; and in the second place, as regards tamponing the cervix, that would be hardly more secure, unless supplemented with a vaginal filling, since it may, and not unfrequently does happen, that an expulsive pain dilates still further the mouth of the womb, and either drives out the plug or leaves it to readily drop out, thus putting things in exactly the same condition as before. True, and as in addition to the insertion of a cervical tampon in the ordinary manner, obstetrician Barnes, of England, advises that the tampon be made by fastening cloths in a conical form around the end of a flexible rod, and, using this as the instrument, confine it in the vagina by the aid of tapes, so that it cannot be driven out. But this arrangement, while it may be comparatively easy of use, and may be kept from coming away, affords no protection at all against the further and continued dilatation of the neck of the

womb, which in most cases will be likely to go forward with such rapidity that the plug that filled the entrance, when inserted, will, the next hour, not half fill it, and the flooding will go on around its entire circumference, and with very little diminution of its violence. If there could be certainty, in any case, that the hole filled by Mr. Barnes' probang-plug tampon would prove like one in a barrel, fixed, potent to resist further expansion, and so easy to be kept filled, the whole matter would be changed, and the plan seem rational; but, as a matter of fact, the hole at the entrance to a uterus in the act of abortion is expanded somewhat, is easily expansible further, and in nine times out of ten is going to expand further, plug or no plug, till the contents are emptied out; besides which, the very pressure of the plug, producing thus a degree of irritation, is a provocative to expansion, and tends rather to aggravate than lessen the trouble against which the practitioner is contending. Despite the advice of so able a writer as Mr. Barnes, therefore, I think we shall do younger men good service by saying to them, that after they have fixed a very nice cone-shaped tampon on the end of a suitable staff, and got everything all ready to use it, they will compass a large amount of good by raising the nearest window and throwing the thing into the street. There is not the first element of safety in the arrangement Mr. Barnes proposes.

Differing from Skene and Barnes, Prof. Lusk, of Bellevue, advises the vaginal tampon, countenancing the materials mentioned by earlier writers, but discarding sponge, as being the least reliable, because of its porosity. But he regards any of the materials we have named, if used after the ordinary fashion, as only temporary makeshifts, and not to be trusted if the patient is to be left for a few hours out of professional oversight. He thinks the "highest degree of safety can only be secured by the closest observance of the rules of art;" and the closest observance of the rules of art in this condition consists in packing disks of carbolized cotton behind and around the os, by the aid of a Syms speculum and other gynæcological traps, and continuing down with them till we reach the narrow portion of the vagina, above the vestibule. The professor thus discards the tampons of his predecessors in midwifery as unreliable, except as temporary

expedients, not to be trusted long out of observation ; and unless a great deal of care be taken in the ordinary way of packing, his view is in a measure correct ; and great care in the ordinary way, as has been observed, is difficult to the attendant and troublesome to the patient.

The mode of procedure advised by Prof. Lusk, and the material indicated, commend themselves to our artistic taste and to our ideas of safety ; but the employment of them supposes, first, that material and tools are either at hand or can be readily had ; it supposes, also, proper and competent assistance, proper disposal of the patient as to light and position ; and it supposes, further, plenty of time for the operation. If one could go to his case with a previous knowledge of the condition of things, and take all his traps along with him, in the same easy and collected manner as he goes to a case of ruptured perineum or of ovariectomy, the procedure recommended would be worth acceptance ; but the truth is, that the vast majority of cases that come to the great body of everyday practitioners don't fall in the way. The treatment of flooding from abortion is generally an emergent treatment. You are called out to go a mile, two, five, ten miles, to see a woman supposed to be near death, frequently having no intimation even as to what may be the matter. You don't take along any Sims' speculum, nor any little paper bag of carbolized cotton wadding. You find a woman in the condition of dangerous collapse from the loss of blood, and sometimes with an even chance that if she loses another teacupful before you arrest the flow, she will go off entirely. The call is for immediate treatment ; and the practitioner who wastes time in preparing carbolized cotton disks, syringing out the vagina, getting his patient in position for the introduction of a speculum, and all that sort of thing, while meanwhile the woman is getting worse and worse, may not be lacking scientific attainment in his profession, but he does lack—what is of vastly more importance for the moment—common sense, and the proper talent for the successful grasp of an emergency. It is the condition of emergency that requires the first attention ; and if the treatment of the emergency is successful, and the hæmorrhage is arrested, it is of doubtful expediency to disturb that for the purpose of putting in a better

filling the next hour; if it fails, then the artistic procedure of Prof. Lusk commends itself to our attention.

After this criticism, I venture an expose of my own method of treating the flooding of abortion. When I began on these cases, thirty years ago, I followed the books, using sponge, handkerchief, cloth, etc., sometimes dry, and at other times wet in some styptic wash; but found them oftentimes difficult of introduction, and not always satisfactory. I continue to use these things, when I don't have what is better. The better thing is a junk of alum; the alum egg is a part of the contents of my medicine box. It is of the size of a large hen's-egg, oval in shape, without sharp points, but generally a little ragged. A bit of strong but not large twine is tied in a groove cut around the middle of the egg, leaving the ends so they will hang out of the vagina. To use this no preparation is necessary; no removal of the patient required. Separating the labia with the first two fingers of one hand, with the other hand the egg is introduced endways, turned half round, so as to bring the long diameter across the vagina, and pushed downward and then upward against the os. If the canal is large and open, the egg can be backed with sufficient packing to hold it in position; but in the majority of cases the supplementary support will not be needed.

This method of treatment is easy of use, speedy in operation, and effectual against further hæmorrhage. The blood escaping from the uterus is very soon clotted, and an effectual tampon, extending well into the os, quickly formed. The size of the tampon is increased by the same process of clotting of any further blood coming against it. The vagina is also filled by the same process. This treatment has never failed me; and after its use, I leave the patient with the feeling that she is safe for the next twelve or fifteen hours, so far as any danger from another attack of bleeding is concerned. No unfavorable effects have followed the use of the alum in this way in any of the scores of cases in which it has been employed; no fevers, no septicæmia, no deaths; nothing untoward; and I have never had occasion to use it the second time in any one case. The alum is a better antiseptic than any amount of carbolic acid that can be used; and for this, and its powerful astringent quality,

has an excellent after-effect upon both uterus and vagina. Another thing in its favor, as thus employed, over any system of vaginal packing with cloths or cotton, is, that micturition is not interfered with, as it sometimes is by stuffing the vaginal canal, and thus making pressure on the urethra. The alum can be removed when desired, either by traction on the cord or by the introduction of the fingers; the coagulated blood fished out, the vagina syringed, and the case further treated as circumstances may require.

The use of alum is barely alluded to in some of the older writings on the flooding of the uterus; but its employment in the way I have indicated is not common, nor much known. With an impression, the outcome of considerable experience with it, that it is a valuable remedy, this advocacy is respectfully submitted.—*The Independent Practitioner.*

PUERPERAL FEVER: ITS TREATMENT AND PREVENTION. By
JOHN LOWE, L.R.C.S.I., L.R.C.P.E. and L.M., Lichfield.

No subject has created more anxiety or attracted more attention in recent years than that of puerperal fever; and as I have been unfortunate enough to have had some experience of this terrible disease, I do not wish to hide that experience, and the lessons derived from it, if its publication may prove useful to others.

I was engaged in a large London practice, nearly two years ago, where the number of confinements averaged over three hundred cases annually. Scarlet fever was very prevalent in the district, and later on erysipelas broke out as well. We isolated our cases most carefully, and were satisfied that a perfect system of disinfection was observed. We visited all the parturition cases earliest in the day, and I always used, and do so now, a mixture of carbolic acid and vaseline for aseptic purposes when attending confinements. I practiced, in fact, what is now called antiseptic midwifery. Notwithstanding all this, a mild case of puerperal septicæmia occurred in a case attended by my chief.

The abnormal tenderness, high but variable temperature, cessation of lochia, offensive stools, and lightheadedness, ending in maniacal behavior, combined to convince me that these were the expressive symptoms of puerperal fever poison, and Dr. Bristowe, who saw the case subsequently, fully concurred in this opinion. This case, after a protracted illness, eventually made a good recovery. A few days after the above case occurred, the nature of the dire enemy was established beyond a doubt. Another woman, whom my principal had delivered of her second child, fell suddenly ill on the third day after delivery. She presented all the classic symptoms of malignant puerperal fever when I saw her twenty-four hours after the onset of the disease. I resorted to eliminate effete products from her blood, and had recourse to free stimulation and support. I cleared the lower bowel by enema, and I irrigated the uterus and neighboring pouches with carbolic acid solution every six hours. Fifty-two hours from the commencement of the disease pulmonary embolus manifested itself. It was now painful to witness the poor woman's suffering and it would be superfluous to describe it. She sank rapidly in the usual way. The third case, which was attended by myself, is more interesting, so I shall relate it more fully.

B. T., aged 27 years, had previous good health, but of bilious temperament. Delivered of third child on 28th Nov. 1880, with forceps and without difficulty. Did well until 5th Dec., when offensive diarrhoea began and lochia stopped. The temperature in axilla was 102.3° Fahr., and there were other minor symptoms. I gave her a strong powder containing calomel, jalap, and podophyllin, which improved the fæces in color and odor. Her diet was limited to broths and milk, with a little brandy occasionally. I washed out the uterus with carbolic acid solution, and the bladder with permanganate of potash solution, four times in twenty-four hours. On the 7th Dec. she fell into a thorough stupor, and could not be roused for more than two hours. After six hours she was semi-conscious, but her expression was very vacant, and her movements very purposeless. There was paralysis of left arm and leg, with constriction about pharynx, and inability to articulate. She had difficulty in swallowing

liquids. Incontinence of urine and fæces—the former very ammoniacal, although bladder was regularly washed out. Pulse 112, temperature 104.5°. Pallor, loathing of food, thirst, full pulse, very contracted pupils, and intense pain in right temporal region, with paralysis—sensory and motor—aforesaid, clearly pointed to localized cerebritis, the result of septic thrombus. I prescribed half an ounce of brandy in milk to be given every hour. 8th.—Respiration an effort. Fæces offensive, and urine as before, with a specific gravity of 1029. Amblyopia, contracted pupils, and other symptoms persisting. Can speak a little. Ideation much impaired. Treatment continued, increasing brandy. Ordered her an ounce and a half of castor-oil. 9th.—Slight offensive discharge from vagina. Temperature very variable. Uterus and bladder washed out as before. Headache is still severe, but the fæces are less offensive and more normal in appearance. I have had ice applied to her head since I diagnosed cerebritis. 11th.—She had no proper sleep since the 5th inst. Milk has been gradually disappearing from her breasts, but there is none secreted now. Slight but less offensive uterine discharge. There has never been any pain about uterus or abdomen. Pupils less contracted. Sight imperfect. Headache persists. Urine and fæces improve. Treatment continued. 13th.—Less thirsty. Had an hour's good sleep last night. Looks vacant. Speaking a great toil. Movements very slow and deliberate. Fæces and urine improved. Cerebral macula on left hip. In other respects as before, and treatment continued. 16th.—Better in all respects, except that there is slight incontinence of urine. Appetite improved. Pupils act well. Sensation and motor power have returned in leg to a slight extent. She progressed slowly yet certainly afterwards, and when I last saw her on the 23rd she had enjoyed regular and natural sleep, relished her food, and said that she felt quite well, if it were not for the paralysis. She had perfect control over both bladder and rectum.

I have stated that I believe the cerebritis was caused by thrombus, and not by embolus, in this case, as, if the latter were afloat, then the lungs or liver would most likely suffer, as indeed they more frequently do. The treatment of septic cerebritis by

administering brandy with easily digested but nutritious food, and the application of ice to the head, is suggested by common sense, and will be found useful in practice.

The fourth case was malignant in type occurring in a woman who was already in a hopeless condition from neglected syphilis. She exhibited the usual lung complication before death. The remaining five cases came under my notice early; and although each was in a very critical condition some time during the attack, yet they all recovered. One had periuterine inflammation for some time after, and another had uterine phlebitis with a large pyæmic abscess of the calf of one leg. I attribute recovery in these cases partly to their coming under treatment early, and partly to the good constitution of the women. In each case I encouraged free action of the liver, bowels, and kidneys, and I had frequent recourse to stimulation when it was indicated by past history or present symptoms.

I am strongly of opinion that by early and repeated aseptic intra-uterine injections, a rapidly acting cholagogue, washing out the bladder, if necessary, with some aseptic solution, and the timely and liberal use of stimulants, will avert death in many instances. It is no use giving the nurse instructions to wash out the uterus; we must do so ourselves by means of a long tube in the uterine cavity itself. Ammonia and brandy I regarded as the medicines for the disease; indeed when food is refused, brandy is not only most grateful to the patient, but it is peculiarly well adapted to supply the place of ordinary food, and no amount of fever or other symptom contra-indicates stimulation when changes so destructive to the vital fluids and tissues of the body are in terribly rapid progress. To give aconite or veratrum viride in such cases is, in my opinion, as unscientific as it is useless; and yet these remedies have been vaunted and are actually used by men of undoubted ability and eminence. To get rid of a fermentive poison from the blood we must adopt some such practice as I have indicated, and not stop to theorize about the physics of the circulation. We must, in other words, support vitality and eradicate the poison. That salicylates and sulpho-carbolates taken internally do not rectify the turbid urine in puerperal fever, I am convinced from experience; and I would

strongly urge that all depressant remedies are both hurtful and dangerous. It would be a waste of time and space for me to speculate on the etiology of puerperal fever, still more to discuss the appropriate term for the disease. In the same run of cases we meet with malignant puerperal fever septicæmia, and pyæmia. For my part, I believe that either may give rise to the other, and that scarlet fever or erysipelas may undoubtedly cause any of the above forms of puerperal mischief. This is my experience, and I have watched more cases under the care of others than those referred to in this paper.

I have now to call attention to what would appear to have received least attention: how best to prevent contagion. The golden rule hitherto has been to leave off attending confinements altogether for several weeks. This is generally a safe rule, but it is often a mighty inconvenient, and, I believe a most unnecessary one. It occurred to me that by the strictest asepticism the spread of the disease might be prevented. I remained as short a time as possible in the lying-in room when attending confinements, lubricated my hands well with vaseline and carbolic acid, and had the carbolic spray playing between the patient and me during operations. The labor over, I washed out the uterus and vagina with carbolic acid solution in the usual way. Now, this proceeding has the advantage of cleanliness and safety, and is unobjectionable. From the moment I took these precautions there was not another case of puerperal fever in the practice, although I continued to attend cases as they turned up, and I cannot see how any one can fail to appreciate the efficacy of the treatment pursued. The inconvenience of the spray and its formidable appearance are not valid arguments against the practice: one additional puerperal case would be more inconvenient and more formidable. I will not pursue this subject further now, but merely give the foregoing remarks—made with much sincerity and earnestness—to the profession for consideration.

PROF. W. T. MONTGOMERY intends leaving Chicago about Feb. 1, for a six months sojourn in Europe.

DRY CUPPING AND REST Considered as a Means of Relief in a Case of Locomotor Ataxia. By HENRY M. LYMAN, A.M., M.D., Professor of Physiology and of Diseases of the Nervous System, Rush Medical College, Chicago, Ill.

In the early part of the winter of 1879-80, I was consulted by Mr. D——, a gentleman, then about thirty-eight years of age, a wholesale dry goods salesman, who was suffering with well-marked symptoms of locomotor ataxia. A single man, well-formed and vigorous in his general appearance, he could trace his disorder to no hereditary cause. He was, and always had been, exceedingly temperate and correct in all his habits, and had never experienced any severe sickness. He had never had either syphilis or gonorrhœa, or rheumatism. Shortly after the great Chicago fire in 1871, at which time he had been severely overworked, he began to suffer with lancinating pains and with paroxysms of painful micturition. For this he was treated at great length by an eminent genito-urinary specialist, who considered it a case of spasmodic stricture of the urethra. Treatment with bougies, etc., failed to give any relief, and was finally discontinued. For a number of years the patient continued his usual occupations with the greatest diligence and prosperity, and with the exception of the pains just mentioned he seemed to enjoy excellent health. During the course of the year 1879 he began to experience a certain degree of unsteadiness when walking, especially in the dark. After consulting a number of other physicians, he called at my office, and requested an examination. I found him presenting the usual symptoms of progressive locomotor ataxia—lightning pains, anæsthetic, paresthetic, and analgesic patches upon the surface of the limbs, absence of the tendinous reflexes, ataxic gait, diminution of the power of co-ordination in the muscles of the upper extremities, cracking of the joints, paroxysms of hyperæsthesia affecting the mucous surfaces of the mouth and pharynx, unequal contraction of the pupils, weakened power of accommodation, progressing atrophy of the optic papillæ, and failure of sexual appetite. I advised the use of ergot, which was shortly followed with nitrate of silver, and the daily use of the galvanic current.

Living at a long distance from my office, and actively occupied with the details of his business, the patient was quite inclined to neglect his treatment. He, however, fitted up a galvanic apparatus at home, which he employed with considerable skill. By this means he thought that his pain was somewhat relieved. He could not think of abandoning his work, which was then yielding him a large income, and I soon became convinced that his ataxic symptoms were increasing.

After an absence of several weeks, he one day called upon me, to relate his experience in New York, where he had been obliged to spend some time in connection with his business. While there he had consulted Professor E. C. Seguin, and was for several days under the eye of Dr. Geo. M. Beard. These gentlemen both concurred in the diagnosis of locomotor ataxia, and warned him against a marriage, for which he was making preparations, an opinion with which I heartily agreed.

During the month of February, 1880, my patient was quite tractable, and underwent a course of energetic treatment with the galvanic current, applied long enough over the back every day to produce great redness of the surface. He also continued the use of nitrate of silver. After taking about a drachm of the silver salt, iodide of potassium and bichloride of mercury were substituted in its place, but without any apparent effect.

As the spring and summer of 1880 progressed there was some relief of the painful symptoms. My patient ceased calling at my office, undertook a journey to California, and again visited New York, so that I did not hear from him again until the last of September, or some time in October, 1880, when he informed me that he had determined to run the risks of matrimony. The marriage took place about the middle of October, and the unfortunate bridegroom was so much exhausted by the event that he was obliged to keep his bed the greater part of the time without the slightest attempt or desire to consummate the union. From this time I lost sight of the case.

A few weeks ago I was much surprised by the information that my former patient had been completely cured by the use of Junod's boot in the hands of a non-medical empiric. I at once took measures to ascertain the residence of Mr. D—, and opened

communication with him again. From him I learned the following continuation of his history.

Almost simultaneously with the occurrence of his marriage the mercantile house with which he was connected became suddenly and unexpectedly bankrupt. By this failure he found himself thrown out of employment at a time when he was perfectly helpless. His physical condition became rapidly worse. Eyesight began to fail; ataxia increased, and the muscles of the lower extremities began to dwindle, lightning pains were frequent and agonizing. The rectum became anæsthetic and uncertain in its retention of fæces. The feet were cold and numb. When sitting erect the gluteal muscles would seem to roll outward with a sensation as if the tuberosities of the ischia had suddenly slipped down over the edges of the muscles. Walking was becoming very difficult, and was quite impossible in a dark room.

While in this pitiable condition some one advised him to consult an empiric who was treating rheumatism with Junod's boot. The interview did not produce a favorable impression, but inasmuch as the remedy was offered gratuitously if no benefit should accrue, Mr. D—— concluded to make the experiment January 8, 1881. At first there was no apparent benefit, though the apparatus was applied twice every day. After about a month the pains began to diminish, and the circulation began to improve in the extremities. Thus encouraged Mr. D—— procured a set of the cups, etc., and his devoted wife conducted the treatment at home. The cups were applied along the spine, and the limbs were treated with the boot. Gradually improvement took place, and during the summer of 1881 the pains were entirely relieved, and have never returned. The muscles also resumed their former volume; the rectum recovered its sensibility, and the sphincter renewed its appropriate function. Eyesight improved until now he is able to read without the slightest discomfort. Appetite returned; digestion was restored; the power of locomotion increased; and at the end of a year after the commencement of treatment, erections began once more to occur.

On examining Mr. D—— I found everything as he represented it. There is still some degree of ataxia manifest in the movement of the feet, especially when excited or weary. The upper

extremities are perfectly manageable. Anæsthesia has disappeared from the regions where it was formerly manifested, but the tendinous reflexes are still absent. The patient walks easily and rapidly without a cane, turning sharply around without difficulty, but he is unsteady on his feet with his eyes shut, and is unwilling to trust himself in the dark. The eyeballs move perfectly, but the pupils are contracted and do not respond readily to changes of light, though they move somewhat in accommodation. There is considerable atrophy of the optic disk. Difficulty is apparent in recalling proper names, but otherwise the intellectual processes are intact. Appetite, digestion, and sleep are perfectly natural. The patient no longer feels that excessive sensibility to changes of temperature which formerly troubled him. Erections take place as often and as completely as ever. Amatory feelings have revived, and sexual intercourse has been performed several times without much subsequent lassitude, but for prudential reasons has been discontinued. The patient feels competent to resume business, but is wise enough to see that his disease is not cured, and that discretion is still the better part of valor. He still continues the use of the cupping apparatus every other day, and is positive in his conviction that his improvement, though gradual is progressive. It is certainly true that his condition is vastly superior to what it was when I previously saw him at the time of his marriage—an improvement which is due in part to his long vacation from business, and in no inconsiderable part to the powerful counter irritation and derivation effected by the use of the cupping apparatus. If this had produced no better result than the mere relief of pain it would still be invaluable in his estimation. Its effect upon the general health and nutrition gives it the right, in this case at least, to rank with hydrotherapy, massage, and the Swedish movement cure as a method of treatment which deserves trial as a means of retarding the progress and relieving the anguish of one of the most intractable of diseases.

September 8, 1882.

GOVERNMENT PROTECTION NEEDED. By HENRY B. BAKER.

Permit me to ask your attention and the attention of the public and its representatives in congress to the urgent need for legislation immediately on the assembling of congress, which shall make an appropriation for the continuance of the immigrant inspection service, now partially sustained by the National Board of Health. By reductions in force and in pay that board has been able to continue the service until Dec. 15, but after that time it will have to stop, unless Congress will immediately pass a bill or joint resolution which shall provide especially for the continuance of the immigrant inspection service. Experience would seem to suggest that it would be wise to intrust the disbursement of the funds and the supervision of the service to the National Board of Health in preference of any other United States department or service.

During the 18 weeks ending Sept. 30, 1882, there were inspected at Port Huron about 18,000 immigrants, and at Detroit about 23,000—nearly 41,000 immigrants at the two points. Of these who passed through Port Huron a large number had not been previously inspected; over 12,000 certificates of protection from small-pox were issued at that port, nearly 8,000 immigrants having been vaccinated there during the 18 weeks, and thus that number protected from getting and spreading small-pox. At the two stations 178 sick in transit were found, 85 of whom had measles. This brief summary may convey an idea of the extent of the labor in this State; but the necessity for such a service may be apparent by referring to the incessant struggle which the health authorities throughout this and other States have had and are having with small-pox and other contagious diseases which, since the immigration has been so great, have been introduced at so many places and so frequently that it seems impossible much longer to prevent these diseases from becoming generally epidemic throughout this country, more particularly the northern and western States where the immigrant and other travel is great. Thus, in Detroit a special meeting of the board of health was recently called to consider the question of closing the schools

because of the prevalence of diphtheria. A late paper says: "Public funerals are forbidden in Boston Mass., on account of the prevalence of diphtheria and other contagious diseases." In Cincinnati cases of small-pox have been so numerous, it is alleged, that the health officials have suppressed the facts in order to prevent a panic; but the number reported has been large.

Michigan has hardly been free from small-pox in the past year, and at many places, such as Grand Rapids and Detroit, the local health authorities have been almost constantly engaged in combatting it until some time after the inspection service began. Diphtheria and scarlet fever have been constantly present in many parts of the State; and they break out at new places about as fast as they are controlled at others. Some of the contagious diseases are yet constantly being introduced, notwithstanding the government inspection, because the service has been mainly confined to preventing the introduction and spread of small-pox. The deaths from each of several of the other contagious diseases greatly outnumber those from small-pox. These several facts show the importance of not only continuing the immigrant inspection service with respect to small-pox, but also granting the protection of the U. S. government from the continuous introduction from abroad of other contagious diseases, especially diphtheria and scarlet fever. It is believed that neither small-pox nor other communicable disease are originated in Michigan, but are so continually being brought into this country and into the State by means of commerce and immigration, that neither the local or the State boards of health are able to free the country or the State from these contagious diseases. The attempt is even more difficult than would be the case with the several fire departments if articles capable of spontaneous combustion were being thus frequently and generally introduced.

If local health authorities undertake to stop the introduction of disease, their best methods will cause delay to travel and interference with what seems to be of national concern. The expense, also, of the inspection, at Port Huron, for instance, is too great to be borne by that city; especially as the danger from the introduction of diseases at Port Huron extends to every part of the

northwest, as far as Manitoba. A large part of the small-pox in Michigan has been traced to Chicago; but without immigrant inspection Chicago gets contagious diseases by way of Port Huron, as well as by other routes. Port Huron is a port where great numbers of immigrants first touch United States soil, and is a point where it is of great importance that there should be a thorough inspection and many primary vaccinations. Detroit is a point where it seems very desirable there should be an inspection station for inland inspection and surveillance; a few immigrants also first enter this country at that port.

Before the inspection service began, there were frequent importations of small-pox into this country and this State by immigrants; but since this service has been established its influence extends backward on the lines of travel, and is effective for good on board the ship, on which the immigrant sails, and it continues to his destination and the necessary surveillance after his arrival at his destination; consequently the importations of small-pox have been very much less in number, because the knowledge that rigid inspection is enforced in Michigan and Illinois, etc., tends to make the examinations and vaccinations on board ship and at ports of entry more complete and thorough, and the local health authorities can be informed of the entrance of immigrants into their jurisdictions, and the public health be in some measure protected.

What is needed is that the immigrant inspection be continued and the inspectors directed to pay more attention than heretofore to scarlet fever and diphtheria and to the disinfection of all luggage believed to be infected with any disease especially dangerous to the public health. At the present time no person should take the risks of travel without the protection of vaccination. The vaccination of unprotected immigrants is needed not only for their own protection because unusually exposed to small-pox en route, but also to prevent them from spreading the disease broadcast throughout this country.—*Lansing Republican*.

SOME PERSONAL REFLECTIONS.

The present issue closes the third year of the publication of the ANNALS OF ANATOMY AND SURGERY, as a monthly periodical, and it seems to be a favorable time for indulging some reflections as to the reason of its being, and the aims of its future. It still remains, as when instituted, the only journal devoted to Surgery, and to Anatomy as related to Surgery, published in the English language. The first number of the *Revue de Chirurgie*, which appeared in France nearly at the same time, added a similar journal for the use of those familiar with the French language—"Langenbeck's *Archives*," "Volkmann's *Series of Clinical Lectures*," the *Centralblatt*, and the *Zeitschrift für Chirurgie*, have continued to present to readers of German the surgical work of that nation. That in America also should be maintained a special journal of Surgery, there is found ample reason in the number and quality of the special workers in this field, in the character of the problems which engross its students, and in the rapid strides towards scientific precision, which surgical practice has witnessed within the past two decades. It is true that much of a surgical character appears in the general medical journals of this country, and especially in the great weeklies. These afford a specially favorable field for the first announcement of any step or fact, that its wide diffusion may be early secured, but in the crowding of the weeks upon each other, and in the variety of the interests which the columns of the weeklies must reflect, they cannot be so well adapted for elaborate articles, nor for presenting matter in the way best adapted for preservation and reference. The general weekly journal, moreover, can give to new publications nothing more than cursory notices that are of no value, either in aiding a reader to form an opinion as to the character of the work noticed, or to keep himself informed of the advances in knowledge that it may evince. The long intervals at which a quarterly appears, are too great for the interest in it to be sustained from one number to another.

However, it may once have been, a monthly or a quarterly which now attempts to include in its compass the whole of medi-

cine, is at once crippled by the size of the field, but if it restricts itself to a special department, it presents the happiest union of the elements needed for the best presentation of whatever may be of permanent value in that department. The specialization of journals is thus, but the natural result of that specialization of study and practice which is the inevitable result of the growth of knowledge. The power of this tendency to specialization has shown itself in the gradual development of this journal from being the simple record of a special local society, to a point where it may presume to claim consideration as an exponent of American Surgery in general. In order to favor the future development of the journal as a general exponent of Anatomy and Surgery, it has been thought best that it should not be, even apparently, the organ of any one society, and accordingly the Anatomical and Surgical Society of Brooklyn, by whose direction and support it was inaugurated, have relinquished their special interest in it, and henceforth its editors will be solely responsible for its contents and character.

On the eve of the beginning of a new year, the editors take the opportunity of announcing their aim to continue the practical and high character of the contents of the journal, and to make its tone progressive and liberal. They will have the assistance of the same corps of associate editors as in the past, with the addition of Dr. Roswell Park, of Chicago, Lecturer on Surgery in Rush Medical College, and surgeon to the Michael Reese Hospital. The *Annals of Anatomy and Surgery* will therefore continue to be issued monthly, and will present, in each number, detailed studies and elaborate articles from special contributors, and careful editorial reviews, digests and discussions of such topics and books as may seem to be of special importance, from time to time. Articles for the journal are now in course of preparation by Prof. W. T. Briggs, of Nashville, Tenn.; C. B. Keetley and R. J. Godlee, Esqs., of London, Eng.; Dr. H. D. Schmidt, of New Orleans, La.; Profs. Moses Gunn and Edmund Andrews, of Chicago, Ill.; Prof. W. W. Keen, of Philadelphia; Prof. Hunter McGuire, of Richmond, Va.; Dr. H. A. Martin, of Boston, Mass.; Prof. F. H. Gerrish, of Portland, Me.; Dr. F. W. Rockwell, of Brooklyn, N. Y.; Profs. T. F. Prewitt and

L. Bauer, of St. Louis, Mo.; Prof. P. S. Conner, of Cincinnati, O.; Prof. Randolph Winslow, of Baltimore, Md.; Drs. H. Banga and W. T. Belfield, of Chicago, Ill.; Prof. A. L. Ranney, of New York; and Prof. Wm. Osler, of Montreal, Canada.

The scope of the journal will include also, as indicated by its title, particularly those lines of anatomical research which have a bearing upon practical surgery.

The scholarly sketches of the old masters of Anatomy and Surgery, which for three years have regularly appeared in the journal, from the pen of Dr. George Jackson Fisher, of Sing Sing, N. Y., will be continued during the year to come. Beginning with Avicenna in the January number, Hally Abbas, Albucasis, and the school of Salernum will successively form the subjects of sketches.

During 1883, in addition to the features which have heretofore characterized the journal, it will publish the proceedings of the New York Surgical Society, which will include many elaborate papers and discussions of the greatest value.

Finally, whatever shall promise to make the journal more completely representative of American Surgery, or more valuable to American surgeons, it will at all times be the effort of its editors to adopt.—*Annals of Anatomy and Surgery*.

THE RESULTS OF NERVE-STRETCHING.—Dr. Ceccherelli provides a useful catalogue of 119 books and essays which treat of nerve-stretching with a summary of the history and results of the operation. The origin of the operation he traces to Billroth's treatment of a man who had bruised his right buttock severely and suffered from pain and formication in the right leg, with spasms starting from the leg, extending all over the body and endangering his life from arrest of respiration. Billroth exposed the right sciatic nerve and examined it carefully up to the sciatic notch, without finding any obvious injury, or imagining that he had done any good. The man, however, got well, and the conclusion was drawn that the manipulation of the nerve had effected his cure. Nussbaum took

up the idea and made an experiment in 1872 on a man who had an abscess in the neck, which left his arm contracted and anæsthetic on its anterior surface. He laid bare the brachial plexus, and, though he found no abnormality, stretched all the component nerves strongly one by one. Some violent spasms followed, but the contracture disappeared and the sensibility returned. Since then, remarks Dr. Ceccherelli, nerve-stretching has become a part of practical surgery. Experiments show the great elasticity of nerves and their great strength. The larger trunks may be lengthened about 5 per cent., but they slowly sink again to almost exactly their original measurement. The sciatic in the dead body requires a weight of about 186 lbs. to break it [a force equal to the full strength of the grasp of a very strong hand; or, in other words, the sciatic is sufficiently strong to support a man of 13 st. weight.] Anatomically, violent stretching produces ecchymoses under the perineurium, and separation of the axis-cylinders from the neurilemma. Physiologically, it is somewhat doubtful whether the results are due to an alteration in the central or the peripheral end of the nerve, or in the substance of the nerve-trunk itself. There is no doubt that in a few instances the spinal cord is affected by traction on the nerves, as in a case of forcible reduction of the humerus after five weeks dislocation where the strain on the brachial plexus, which was matted together by inflammatory products, tore the substance of the cord and produced hæmorrhage there. The microscope throws little light on the more ordinary changes. An effect on the gray matter of the cord is sometimes argued from tropic changes which follow stretching, but these occur only when considerable violence is used. The usual result is temporary loss of sensation, without any effect on motion. Permanent loss of sensation and slight loss of motion may be produced by greater violence. Why the sensation should be the more readily affected is not plain. It is a convenient but quite unproven hypothesis that the sensory fibers are broken more easily than the motor. In surgical practice two methods are used: (1) Stretching of the nerve may be produced by very violent movements of a limb; *e.g.* Trombetta is recorded to have cured an old case of sciatica at once by flexing the hip to such an extent that the foot nearly touched the mouth: (2)

The method far more commonly in use is to expose the nerve and stretch it with the finger or some instrument. Whether it is better to draw on its central or on its peripheral end must be considered unsettled, and the force to be used to the best advantage is a matter mainly of conjecture, though most surgeons of experience recommend more than seemed to them at first advisable.

From the large body of statistics which Dr. Ceccherelli has brought together may be constructed the following table, under his own headings :

	Total.	Suc- cessful.	Unsuc- cessful.	Deaths.	Improve- ment.	Doubt- ful.
Neuralgia	99	74	6	—	12	7
Contractures	14	13	—	—	1	—
Tic	7	6	1	—	—	—
Spasm from injury	12	10	1	—	1	—
Peripheral paralysis* . .	34	34	—	—	—	—
Diseases of nervous centers	36	5	7	8	16	—
Epilepsy	4	1	1	—	2	—
Tetanus	45	14	—	29	—	2
Stretching of optic nerve	1	—	—	—	1	—
Total	252	157	16	37	33	9

The considerable excess in such dangerous cases as those of tetanus encourages Dr. Ceccherelli to recommend the treatment for a first trial. Under the diseases of nervous centers are entered the operations for relief in locomotor ataxy with the exception of sixteen recent cases of Langenbuch, in six of which he represents the pain as cured, and in the remainder the operation as too recent to justify any tabulation of the results. Benedikt throws a doubt on the ataxic nature of Langenbuch's cases, and it should be remarked that Langenbuch holds a theory of the pathology of locomotor ataxy which has few supporters (*cf.* Ricklin, *Gazette Méd. de Paris*, July 1881), viz: that it is generally started by cold, and is a peripheral lesion spreading centripetally along the nerve-trunks and by direct continuity into the posterior root-zones of the spinal cord. Bernhardt and Westphal take a decidedly

* In 30 cases a re-establishment of sensation in anæsthetic leprosy was produced by light traction on the nerves.

adverse view of the operation, saying (Feb. 1882) that they have known of no case of cure or even of decided improvement in locomotor ataxy by this means. Dr. Ceccherelli himself is inclined to favor the use of the treatment in states of such hopeless and agonizing character as occur sometimes in the course of locomotor ataxy. (*Lo Sperimentale*, Sept. 1882.)

BOOK NOTICES.

THE MEDICAL RECORD VISITING LIST, OR PHYSICIANS DIARY FOR 1883. New York: Wm. Wood & Co.

This elegant pocket record appears fully furnished forth with things indispensable to the busy doctor, in compact brevity.

BLAKISTON'S VISITING LIST.

The oldest book of the kind well-known to the profession, needs no comment. It contains about the same memoranda as usual, with the addition of the dosage of the rarest and newest drugs.

THE LAS VEGAS MEDICAL SOCIETY, of New Mexico, held their annual meeting at the Plaza Hotel, Vice President Dr. M. W. Robbins in the chair.

On motion, reports of the secretary and treasurer were read and accepted.

On motion, the society decided that no vote by proxy would be accepted.

The society then proceeded to the election of officers for the ensuing year. The presiding officer appointed Doctors Peebles and Milligan tellers. The following officers were unanimously elected: Dr. W. H. Page, president; Dr. M. W. Robbins, vice president; Dr. W. H. Ashley, secretary; Dr. R. Bailly, treasurer; Dr. M. M. Milligan, librarian.

THE EIGHTH SESSION of the International Medical Congress will take place in Copenhagen from the 10th to the 16th of August, 1884.

Items.

EDITORIAL NOTE.

It will be seen that, from the cover of this first number of THE CHICAGO MEDICAL JOURNAL AND EXAMINER for 1883, the names of its editors have been omitted. The change is one which has long been contemplated, and which will, it is hoped, be found useful and practicable in the further conduct of this organ of the Press Association. Hereafter its management will be impersonal, and THE JOURNAL will rest upon its intrinsic merits for a continuation of that favor on the part of the profession which has placed it in its present position. That position is, as regards Western journalism, one of unprecedented financial and general success.

DR. W. T. BELFIELD, whose interesting letters from Germany have from time to time appeared in the JOURNAL AND EXAMINER, will deliver the Cartwright course of lectures of the Alumni Association of the College of Physicians and Surgeons of New York. The lectures will be given on the evenings of February 19, 21, 23 and 26, in the Y. M. C. A. hall, opposite the college. The subjects will be the relations of micro-organisms to disease.

RUSH MEDICAL COLLEGE has honored itself, and conferred a deserved compliment upon Dr. E. Fletcher Ingals by electing him Professor of Laryngology.

IN consequence of a delay in preparing its illustrations the supplementary paper by Dr. H. D. Schmidt, of New Orleans, on the Bacillus Tuberculosis is deferred to the next issue of the JOURNAL. The matter is already in type and will certainly appear in the February number.

CLINICS.

MONDAY.

Eye and Ear Infirmary—1.15 to 2.15 p. m., Otological, by Dr. Schaefer; 2.15 to 3.30 p. m., Ophthalmological, Dr. Holmes.
 Mercy Hospital—2 p. m., Medical, Profs. Hollister and Quine.
 Rush Medical College—3 p. m., Dermatological and Venereal, by Prof. Hyde.
 Woman's Medical College—2 p. m., Dermatological and Venereal, by Prof. Maynard.

TUESDAY.

Cook Co. Hospital—2 to 4 p. m., Medical and Surgical Clinics.
 Mercy Hospital—2 p. m., Surgical Clinic, by Prof. Andrews.
 Woman's Medical College—10 a. m., Prof. Ingals.

WEDNESDAY.

Chicago Medical College—2 p. m., Eye and Ear, by Prof. Jones.
 Rush Medical College—2 p. m., Medical by Prof. Bridge; 3 p. m., Ophthalmological and Otological, by Prof. Holmes; 3 to 4 p. m., Diseases of the Chest, by Prof. Ross.
 Woman's Medical College—2 p. m., Eye and Ear, by Dr. W. T. Montgomery; 3 p. m., Diseases of Children, by Prof. Chas. W. Earle.
 Eye and Ear Infirmary—2.30 p. m., Dr. E. J. Gardiner.

THURSDAY.

Chicago Medical College—2 p. m., Gynæcological, Prof. Dudley.
 Rush Medical College—2 p. m., Diseases of Children, by Prof. Knox; 3 p. m., Diseases of the Nervous System, by Prof. Lyman.
 Eye and Ear Infirmary—1.15 to 2.25 p. m., Otological, by Dr. Schaefer; 2.15 to 3.30 p. m., Ophthalmological, Dr. Holmes.
 Woman's Medical College—3 p. m., Surgical, by Prof. Owens.
 College of Physicians and Surgeons—2 p. m., Medical, by Prof. S. A. McWilliams; 3 p. m., Surgical, by Prof. R. L. Rea.

FRIDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
 Mercy Hospital—2 p. m., Medical, by Prof. Davis.

SATURDAY.

Rush Medical College—2 p. m., Surgical, by Prof. Gunn.
 Mercy Hospital—2 p. m., Surgical Clinic, by Prof. Andrews.
 Chicago Medical College—3 p. m., Neurological, Prof. Jewell.
 Woman's Medical College—2 p. m., Gynæcological, by Prof. Stevenson.
 College of Physicians and Surgeons—2 p. m., Diseases of the Chest, by Prof. S. A. McWilliams; 3 p. m., Gynæcological, by Prof. A. Reeves Jackson.

Daily Clinics, from 2 to 4 p. m., at the Central Free Dispensary, at the South Side Dispensary and at the West Side Dispensary.

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Original Communications.

ARTICLE I.

ARTISTIC ANATOMY AND THE SCIENCES USEFUL TO THE ARTIST. Opening Lecture of a Course Delivered at the Winter Term, 1883, by S. V. CLEVINGER, A.M., M.D., Professor of Artistic Anatomy, Art Institute, Chicago.

One of the best things Sir Joshua Reynolds ever said was: "A painter stands in need of more knowledge than is to be picked off his palette, or collected by looking on his model, whether it be in life or in picture. He can never be a great artist who is grossly illiterate." * After mentioning the advisability of being conversant with the poets, "that he may imbibe a poetical spirit," the recommendation is made to study that "philosophy which gives an insight into human nature, and relates to the manners, character, passions and affections." "The

* Reynolds' Seventh Discourse Delivered to the Students of the Royal Academy, December 10, 1776.

artist," said Sir Joshua, "ought to know something concerning the mind, as well as a great deal concerning the body of man." Admitting all this as self-evident and trite, it is to be observed, that in the days of these utterances, knowledge was not so readily attainable as now, and, with the exception of gross anatomy, which at that time had been thoroughly worked out, there was as much of the false as of the true in the sciences available to the artist; mental science especially.

It is not to be expected that intimacy with the sciences will create an artist, for the artist, like the poet, is *nascitur, non fit*; but certainly the born artist will be all the greater and better for acquired knowledge, as will be the born poet for the mastery of prosody.

If we are to believe Haydon, Sir Joshua was but an indifferent chemist, and knew but little of anatomy. At once the uninformed painter would ask, Why should the artist be familiar with chemistry? All your colors are chemical combinations, which in mixing undergo certain color reactions or changes which are not permanent in all cases; some pigments fade; others darken, and still others pass through a change or many changes. A superficial knowledge of chemistry will enable the modern painter to avoid the errors of the old masters, whose paintings, for the most part, are not now as originally created. I notice a disposition which is to be encouraged, on the part of recent art authors,* to set forth in detail the physics involved in color blending.† While for mere copying or picture-making, a little knowledge of chemistry and physics may answer, in this day, if the painter aspire to represent a modicum of what his art is capable of setting forth by the aid of modern science, were he to attempt a knowledge of mental science, to know the mysteries of the emotions, "manners, characters, passions and affections," nothing short of a *good* acquaintanceship with physics, chemistry, biology, physiology and anatomy would suffice.

This lecture is intended as the first of a series upon artistic anatomy. We will find our subject comprehensive enough not to admit of digression.

* Blanc, Grammar of Art—Translation by Kate N. Doggett.

† An excellent work for the artist to read on this subject is Von Bezold's Theory of Color.

Galen describes the human bones accurately enough, but it appears that very little was accomplished by the ancient Greeks in anatomical studies until the days of Erasistratus, who enjoyed the rare privilege of dissecting criminals alive. Flaxman,* whose lectures on sculpture I advise every artist to read, gives in detail the evolution of art anatomy so far as it is known. John Marshall† prefates his bulky volume entitled *Anatomy for Artists*, with a very interesting history of this subject. The remainder of Marshall's work will answer very well for reference. Fau‡ affords us, in cheap, condensed form, some very beautifully executed illustrations of the human anatomy, but his text is worthless. Haydon,|| old as his work is, in a few pages of his second and third lectures, gives the most concise, and, to the artist, valuable description of the bones and muscles extant. Fau's plates, Haydon's lectures, with a skeleton and cadaver, will answer, though there are some essential things omitted by Haydon and matters introduced, which are unimportant. Hodges' little book § added, will leave nothing to be desired, unless the artist wish to excel in anatomy, in which case he can have recourse to the larger medical works.¶ But there is danger of Haydon's fate being encountered, in mistaking or substituting the means for the end. The painter or sculptor may cease to be an artist in too toilsome anatomical work.

In the many positions possible for the body to assume, there are exhibited certain surfaces, protuberances, ridges, depressions, prominences, curves, angles and lines produced by parts of bones, joints, muscles, tendons and veins, partially obscured by layers of fat, all beneath an investing sheet of cuticle. To be able to depict the outer form properly, the artist must know something of the underlying tissues, just as the sculptor seeks first the exact contour of body and limbs, before clothing them with clinging drapery.

* Flaxman, *Lectures on Sculpture*.

† John Marshall, *Anatomy for Artists*.

‡ J. Fau, *Elementary Artistic Anatomy*. Translated by Blake.

|| B. R. Haydon, *Lectures on Painting and Design*, Vol. I.

§ Hodge, *Practical Dissections*.

¶ Henle, Sharpey and Quain, Gray, Leidy, Holden, H. Allen, etc.

It is probable that the early Greek artists contented themselves with externa's, to which fact many defects are attributable. According to Vitruvius, geometrical rules were applied by them, however, two of which we have in the human figure included in a circle and square, the fingers of the outstretched hands and arms touching the periphery.

The male body was also divided by the Greeks into eight heads. Fau modifies from Jean Cousin's* measurements as follows: Beginning at the summit of the head, and ending at the heel, the eight heads are included by lines drawn through the lower part of the chin, nipples, navel, pubis, middle of thigh, knee, below the calf. The head is divided into four noses, similarly, at hair line, origin of nose, upper lip, end of chin; a nose length lies between chin and supra-sternal fossa. The other proportions, as well as those mentioned, are best represented by diagrams at hand in the Academy. For details I refer you to Flaxman, Fau, and future lectures.

With anatomy as an indispensable groundwork, the artist soon finds himself erecting a superstructure of physiology, physiognomy, and thereupon analyses of beauty and the emotions.

The contraction of the muscles of the face in differing degrees and combinations, have come to be recognized as exhibiting certain inward conditions, called emotions, mainly those of pleasure or displeasure; a pleasing symmetry of form and benignity of expression is styled beauty; and from time out of mind, physiognomists have sought to read the secrets of others in the appearance of the face, and in the demeanor. The nervous action which results in expression; the contraction of muscles; the distension of the veins; all these, and more such which the artist must consider, are physiological processes.

Beauty of form is a strictly anatomical subject. To the thoughtless, it is an indefinable appearance which pleases; to the philosopher it is much more. Its appreciation is governed by the law of relativity, as is everything else in the universe; and every nation, nay, every individual, has its and his own standard. In portraying the queen of heaven, the Madonna was Italian, French,

* *L'art de dessigner de maitre Jean Cousin*, Paris, 1680.

English, Spanish, Flemish or Dutch, according to the nationality of the artist. The Hollander favored a rotundity of form which others would call fat and squab. The African, Asiatic, American and European types differ immensely, indeed, to a provincial extent, among themselves; so much so that beauty on one side of a river, mountain range or political boundary, would appear hideousness to the inhabitants of the other side. Symmetrical softness of outline, in conjunction with nicely blended colors, seems to be, *nearly*, the universal ideal of the graceful and beautiful. Hogarth* attempted the general application of his wave line, not only to beauty of animal form, but to architecture, landscape, etc. He carried his single principle too far, for Gothic architecture is attractive in its angularity, and a rugged landscape may be beautiful without the presence of a curve. In general terms, however, Hogarth was right. Edgar Poe's words here seem appropriate:† "The mathematicians afford us no more absolute demonstrations, than the sentiment of his art yields to the artist. He not only believes, but positively knows, that such and such apparently arbitrary arrangements of matter, or form, constitute, and alone constitute, the true beauty. Yet his reasons have not yet been matured into expression. It remains for a more profound analysis than the world has yet seen, fully to investigate and express them." Poe said aright, that it was not allotted to the artist to analyze his instincts and sentiments. In another connection we will see that the artist himself must needs be analyzed first, and it was not till Herbert Spencer's day that this was done. To the artist beauty is a sentimental consideration; to Spencer sentiment is a matter susceptible of explanation. Hence the Spencerian analysis of beauty should be sought for by the artist.

In his Nov. 10, 1759, letter to the *Idler*,‡ Sir Joshua reviews this matter fairly, for the time in which he lived. He alludes to habit or custom making, in a certain sense, white black, and black white. He supposes that "were an Ethiopian to paint the

* The Analysis of Beauty, written with a view of fixing the fluctuating ideas of taste. By William Hogarth. London, 1810.

† The Landscape Gardener. Edgar A. Poe.

‡ Reynolds' Works, Vol. II, p. 134.

Goddess of Beauty, he would represent her black, with thick lips, flat nose, and woolly hair. We, indeed, say that the form and color of the European is preferable to that of the Ethiopian; but know of no other reason we have for it but that we are more accustomed to it." * * * * "From what has been said, it may be inferred that the works of Nature, if we compare one species with another, are all equally beautiful, and that preference is given from custom, or some association of ideas, and in creatures of the same species, beauty is the medium or center of all its various forms." Aristotle writes:* Every art, every method and every institution, every action and council, seems to seek some good; therefore, the ancients pronounced the beautiful to be the good." There was a time when it was flat heresy to dissent from Plato or Aristotle. We are to-day privileged in a measure to use our own brains, and may safely pronounce the assertion a sentimental one, which strikes the heart strings tunefully, but for all that, it is pure jingle, bad logic; conclusion absurd and *non sequitur*. Read Spencer's Data of Ethics,† if you wish to see the reasons for conceiving the beautiful and the good to be identical. In the shortest possible language, it is a praiseworthy delusion; it is because we want to do so, not because there is any inherent identity.

Alluding again to the fact that habit, custom or education governs our regard for beauty, Hogarth‡ calls attention to the exquisite sinuosities of the human bones. Hogarth had familiarized himself with the skeleton in seeking his lines of beauty therein, and speaks of the "beautiful ossa innominata," while young lady pupils are very apt to shudder when first shown a skeleton, and pronounce it disgusting and horrible. It is a very common thing for anatomists to go into as many ecstasies over an exhibition of beautifully proportioned bowels in the dead body as a lady would over a duck of a bonnet, yet ladies may become naturalists and discuss with their intellectual peers the cunningness and loveliness of snails, spiders, ear wigs and angleworms. Similarly we all laugh at the fashions of dress of a few years back

* Aristotle, Treatise on Morals.

† Herbert Spencer's Data of Ethics. Elements of Psychology.

‡ Analysis of Beauty, p. 55.

just as we will wonder a few years hence how we could have been so absurd as to dress as we do to-day.

Aside from Hogarth's attempt to make too much of the curve idea, his Analysis is well worth reading. He has collected therein many useful hints not to be found in other authors; he notes for instance: "There is another very extraordinary circumstance which nature hath given us to distinguish one age from another by, which is, that though every feature grows larger and larger, until the whole person has done growing, the sight of the eye still keeps its original size; I mean the pupil with its iris or ring; for the diameter of this circle continues still the same, and so becomes a fixed measure by which we, as it were, insensibly compare the daily perceived growings of the other parts of the face and thereby determine a young person's age. You may sometimes find this part of the eye in a new-born infant fully as large as in a man of six feet, nay, sometimes larger. In infancy the faces of boys and girls have no visible difference, but as they grow up the features of the boy get the start and grow faster in proportion to the ring of the eye than those of the girl, which shows the distinction of the sex in the face. Boys who have larger features than ordinary in proportion to the rings of their eyes, are what we call manly featured children as those who have the contrary, look more childish and younger than they really are. It is this proportion of the features with the eyes that makes women when they are dressed in men's clothes look so young and boyish; but as nature doth not always stick close to these particulars, we may be mistaken both in sexes and ages." The facts to which Hogarth calls attention may be summed up to the effect that no matter what changes growth may cause in the relative sizes of faces, at all ages and in both sexes the absolute size of the pupil remains the same. There is a physical explanation in the retina of all alike requiring the same amount of light for visual impressions. The adult can see no better or more than the infant, and this is often true in more senses than one.

An important item concerning the eye seems to be ignored by most writers upon art. The cornea or glassy part of the eye is a small globe segment laid upon the sclerotic or white of the eye,

the eyeball having a larger radius than the cornea. This appears to have been known to many of the ancients though not faithfully reproduced in the casts taken from their statuary. Some sculptors even of acknowledged eminence have what appears to me to be the abominable trick of gouging a hole in the globe to give the effect of reflection. This might be justifiable in colossal figures but in fine statues it would be better art, certainly truer art, to carve the eye as it actually is, with its superimposed cornea.

You will encounter many pretentious works that profess to unravel the secrets of the human face. The versatile Rimmer * has contributed a ponderous set of drawings and "observations" to the physiognomical muddle. His analytical text and classifications are simply soul-harrowing in their artificiality. Sir Charles Bell † was the first to contribute to the subject scientifically, but the windy Zurich parson, Lavater, ‡ is more widely known as a writer upon physiognomy because his vaporings suited the superficial readers who always outnumber the thinkers. Strip Lavater's books of their ejaculations, and they undergo great reduction in size. He seems to have been lost in rapturous admiration of his own conceits. He finally compresses his views into one hundred rules, which carefully read yield six per cent. of truth, twenty-four per cent. of downright malevolence, and seventy per cent. of nonsense. I am sure the ladies will not consider this attack a harsh one when they are told that Lavater's seventy-first rule begins: "Vanity or pride is the general character of all women."

The physiognomy of the past is the childish attempt to judge gentility by dress. A beautiful face is a good face; only the wicked dress shabbily, etc., although food for reflection was furnished by some facts like these: Socrates had a stupid, villainous looking head; Christ is recorded as possessing no comeliness, and St. Paul's appearance was insignificant. There is no denying the justness in many, possibly the majority of cases, of the childish estimate, which but slightly modified, is the same as our own off-hand determination of character by appearance, but if we ask

* Dr. William Rimmer, *Art Anatomy*, Boston, 1877.

† Sir Charles Bell, *Anatomy and Philosophy of Expression*, 1806.

‡ J. C. Lavater, *Essays on Physiognomy*.

ourselves *why* does such a face impress us as being a "good" one and another as being "bad," we must go deeper than the skin. Take the favorable instance of a really kind-hearted, upright person in fair circumstances and good health, with the purely accidental accompaniment of regular features and fine complexion. The goodness in him shows in his face, we say. Why? Because he is not distressing himself with unnecessary schemes and cares, and his consciousness of having harmed no one, nor wishing one harm, enables him to look you fairly in the eye, without the impudence of the domineering person, who can do the same only in a disagreeable way. Your good man is usually so self complacent and good humored that his eye twinkles and his face is wreathed in smiles, and that is about all there is in the so-called "good face." Cannot each one of us recall some such face with which we were prepossessed only to discover in time that we had been deceived in the possessor? To convince you how we often err in the opposite direction it is worth mentioning that defective eyes impart an appearance of character wholly undeserved by the individual estimated. Thus convergent strabismus and contracted pupils give sinister expressions to the face; divergent strabismus a foolish look; while dilated pupils or protuberant eyes express a surprise which the persons afflicted with them may be far from feeling. Lavater's method of discrimination was carried to an absurd degree by a wealthy St. Louis merchant during my boyhood. He declared that without exception, every one-eyed man was a scoundrel. Soon after making this brilliant remark he lost an eye himself, and to add to the whimsicality he happened to be a pretty bad fellow. The poetical justice of the accident impressed itself firmly on my mind.

Winckleman said that superstitious reverence for the works of their ancestors prevented improvement among the Egyptians. Apropos of this, with much less truth, Disraeli causes one of the characters in his last novel to remark, that there is nothing original about the Americans, their ideas, their institutions, their arts are all borrowed, even their language is imported. There is an undeniable toadyism among the snobs of America, but it may be truly said that we imported both toadyism and snobbery from our mother country. In the matter of art we affect a reverence

for the old masters with all the insincerity of our English ancestors. Listen to these words of the first president of the Royal Academy: "The keeper of the Vatican told me that it has frequently happened that many of those whom he had conducted through the apartments have asked for the works of Raphael, and would not believe that they had already seen them, so little impression had these performances made on them. One of the first painters of France once told me that this circumstance happened to himself, though he now looks on Raphael with that veneration which he deserves from all painters and lovers of art. I remember very well my own disappointment when I first visited the Vatican; but in confessing my feelings to a brother student of whose ingenuousness I had a high opinion, he acknowledged that the works of Raphael had the same effect on him, or rather that they did not produce the effect which he expected. This was a great relief to my mind, and on inquiring further of other students, I found that those persons only who from natural imbecility appeared to be incapable of relishing those divine performances, made pretensions to instantaneous raptures on first beholding them."

We thus have authoritative sanction for the belief that genuine admiration for the ancient in art, simply because it is ancient, can only come by cultivation, just as we learn to relish classical music or Limburger cheese. Please understand that I am far from disparaging old artistic productions. There have been undeniably very many grand statues and pictures worked out by gifted brains and hands in the early centuries, but, by all that is honest, do let us use our own eyes and determine for ourselves the merits of art work. Did it ever occur to you that "recognition" can be largely bought and that many sublime modern works are this day feeding rats and moths and that their authors are starving in attics because the accident of "recognition" has not happened to them? What up-hill work Reynolds and Benjamin West would have experienced had they not met with Royal favor. The want of it killed poor Haydon, and Elizabeth Thompson's fortune was made when Victoria purchased her "Roll-Call," after the artist had been repeatedly "skied" by the Academy. One of Raphael's pictures, his "Madonna dei Candelabri," has arrived in New York,

and all snobdom rushes to view and praise it. That same group of "spirituelle" heads and candles might have hung till doomsday in its present place without attracting more than casual notice, had its authorship been unannounced. It is my business as your scientific teacher to bid you open your eyes to the defects in your arts and artists. You can get all the sincere and insincere adulation you may desire for the objects of your reverence from many other sources. To quote from Sir Joshua again: "I consider you as arrived at that period when you have a right to think for yourselves and to presume that every man is fallible; to study the masters with a suspicion that great men are not always exempt from great faults; to criticise, compare and rank their work in your own estimation, as they approach to, or recede from, that standard of perfection which you have formed in your own minds, but which those masters themselves, it must be remembered, have taught you to make. It is their excellencies which have taught you their defects."

"Nor would we have it thought" says Hogarth, "that the ancients or moderns have yet come up to the utmost beauty of nature. Who but a bigot, even to the antiques, will say that he has not seen faces and necks, hands and arms in living women, that even the Grecian Venus doth but coarsely imitate?" It is said that Barnum had on exhibition the skull of Washington when he was a boy, but that is no worse than the anachronism of Rubens, who represented St. John the Baptist as an elderly man while Christ was a child, in the same picture. An altar-piece presumably of the Flemish school, depicts Abraham about to sacrifice Isaac with a blunderbuss. This seems absurd enough, but what must we think of deliberate anachronisms such as the Hyde Park Lord Wellington apeing Achilles, and the Greenough Washington as Jupiter Olympus with tunic and toga. There is one, among several, good features in this statue; it was too large to be placed in the rotunda so it now sits looking toward the senate wing of the Capitol, while the right hand points toward the old Capitol prison.

Samuel Kneeland* deprecates the indulgence by the artist in

* The Monstrous in Art, *Popular Science Monthly*, p. 731, vol. xiv.

worn out mythological conceptions. He dubs the centaurs and sundry other hexapod mammal impossibilities as monstrous, and concludes: "Fidelity to truth cannot injure anything but the false and the temporary. The essentially beautiful must be in nature; it cannot be beyond it, above it, nor below it; the merely ideal in form can have no real existence in the mind of man."

Falsification has had many powerful upholders. The first lecturer at the Royal Academy decried fidelity in historical pictures. Generals must not be represented one-armed, one-eyed, or otherwise maimed if they really were so; the likeness must be sacrificed to the conception of heroic form. He criticised Bernini's David as undignified because the figure bit the nether lip while using the sling—a most natural attitude. Our Phil. Sheridan would have been painted by this "nature mender" as a giant, and Abraham Lincoln as an Adonis. As an outcome of that sentiment we have De Soto just out of a bandbox on the banks of the Mississippi, and Washington about to make New Year's calls across the Delaware—judging from his apparel.

You will, during the remainder of your lives, meet with enough blind adoration of the old masters and their executions to enable you to stand a little fault-finding. It requires some time for an anatomist to recover from such a shock as this: There are groups of muscles on the forearm known as flexors, because they flex or bend the wrist toward the shoulder. It is a matter of very easy demonstration, that the group called flexor digitorum sublimis has its origin at the inner condyle of the humerus, the inner side of the coronoid process of the ulna and oblique line of the radius. It would be thus well thrown at its origin toward the ulnar or inner side of the arm. In Rembrandt's "Dissecting Room" or "Anatomy at the Hague," 1632, Prof. Nicholas Van Tulp appears to be demonstrating to the guild of Amsterdam surgeons, an anomaly not on record. As well as can be made out, the picture shows this muscle coming from the radial or outer side, the outer condyle of the humerus.

Reverting to the intentional false in art, and to the report that there is not a reliable Grecian likeness extant, Tuckerman *

* H. T. Tuckerman's Book of Artists, p, 605.

describes two busts of Daniel Webster, by Hiram Powers and another American sculptor. Powers idealized Webster's head into that of a demi-god. The other artist made a faithful likeness. In Tuckerman's words "mathematically correct in dimensions and feature, wholly unidealized, and therefore universally recognized and prized by personal acquaintances of the statesman; in the hotels he frequented, in the homes of his friends, and in public halls, this bust is constantly seen." The friends of Webster favored the accurate likeness, but as they passed away the fanciful bust of Powers contended for a share of popular favor. At last the succeeding generations came to know the truth and even official recognition (questionable but significant honor) was not awarded Power's *Jovian* Webster, but the fifteen cent postage stamps are adorned with an engraving from the bust of *Daniel* Webster.

If a likeness is not a likeness, should it usurp the place of one? A deserved fate awaits the falsification of the historian, the artist, and any one who hopes to have his works outlive him, and who tries to perpetuate a lie in ink, in colors or in stone. Imagine the archæologist unearthing Greenough's Washington, or the Hyde Park Wellington. The attire of those figures would be to him an unwarrantable anachronism, not to be explained away. Admit Reynolds' historical falsehood into your pictures, and have future ages say of you, "Nothing reliable in their art; no dependence upon their figures as representations." Everybody modern is somebody else ancient.

Let us now look at a more pleasing and hopeful aspect of art, which walks hand in hand with science. As science ever instructs and assists art, so does art assist, elevate and perpetuate science. They are inseparable companions, coming to each other's rescue, when, as they journey, one or the other lags by the way. Up to the beginning of this century, the arts developed much more rapidly than the sciences, with the exception of the mathematical. There is a reason for it in the evolution of society. The ornamental precedes the useful, among all races; similarly, the emotional and sentimental is developed before the reasoning faculties, and furthermore, the emotions have suppressed, and always will,

to a greater or less degree, trample upon and hinder the progress of the intellectual.

I appeal to the history of the world for verification. The beginning of history shows man to have been a true savage everywhere, with the emotionalism and want of reflection of a child. As he passed into barbarism, he merely refined his savage desire for display. He was but little less bloodthirsty; he grew more artistic in his decorative ability, but cared little for science, except as it aided his brawls and crusades. The barbarian merges by slow degrees into civilized man, and we behold sculpture, painting, and decorative arts greatly developed, while John Calvin burns the anatomist Servetus alive, while Giordano Bruno is destroyed at the stake, Galileo is imprisoned, Copernicus anathematized, Roger Bacon's chemical revelations rewarded by the monks' dungeon. But, we say, a better time has come, in which the scientist may speak and write as he wishes. True, we no longer burn and hang for opinions' sake; we have so refined our cruelty that we do even worse, we ostracize, ignore and sneer at living truths, and the men whose shoes we are not worthy to blacken, conscientious men, who have devoted their lives and rare intellects to the elucidation of problems of the utmost importance to their fellow-men. Science has taken a stride in the last twenty years; through the exertions of two men in England, the importance of which art is slow to comprehend. There has been recently laid at rest in Westminster Abbey, by the side of Sir Isaac Newton's remains, the body of Charles Darwin, who during his lifetime was made the butt of the brainless mob. It is only within a few years that the sapient editorial and ecclesiastical mind has gained a modicum of appreciation of the genuineness of his labor, and it is as amusing as it is disgusting to know that one of our city pulpit orators, the celebrated "assimilator," who had for years been damning Darwin and his works, amazed at the unimpeachable testimony brought forward to show the purity and sincerity of the philosopher's life, alluded to him, when dead, as the *saintly* Darwin.

Charles Darwin's "Expression of the Emotions in Man and Animals;" is a book every artist should own and study. It sets

forth, in the most convincing manner, the reasons for every contortion of face and body which the artist can depict. I will attempt to pass rapidly in review a few of the deductions, referring you to the book for the methods by which these were attained.

Three main principles underly expression :

I. The principle of serviceable associated habit.

II. The principle of antithesis.

III. The principle of action due to the constitution of the nervous system, independently from the first of the will, and independently, to a certain extent, of habit.

Each principle could afford us subject-matter for a series of lectures, so we must be content with a few illustrations. A person threatened with some imminent danger, as a blow, or something falling upon him, involuntarily jumps away, closes his eyes, and stretches out his hands to ward off the injury. Now, this is a serviceable action, evidently, but the same person may perform the same maneuvers upon hearing some startling, unpleasant intelligence, without immediate danger, or any at all, to the listener; for instance, the announcement of the death of a friend.

“Many carnivorous animals, as they crawl toward their prey, and prepare to rush or spring on it, lower their heads and crouch, partly, as it would appear, to hide themselves, and partly to get ready for their rush; and this habit, in an exaggerated form, has become hereditary in our pointers and setters. Now I have noticed, scores of times, that when two strange dogs meet on an open road the one which first sees the other, though at the distance of one or two hundred yards, after the first glance always lowers its head, generally crouches a little, or even lies down; that is, he takes the proper attitude for making a rush or spring, although the road is quite open and the distance great. Again, dogs of all kinds, when intently watching and slowly approaching their prey, frequently keep one of their forelegs doubled up for a long time, ready for the next cautious step, and this is eminently characteristic of the pointer. But from habit they behave in the same manner whenever their attention is aroused. I have seen a dog at the foot of a high wall, listening attentively to a sound on the opposite side, with

one leg doubled up; and in this case there could have been no intention of making a cautious approach." This sufficiently illustrates the first principle, though it embraces an immense range of expression.

Next, "When a dog approaches a strange dog or man in a savage or hostile frame of mind, he walks upright and very stiffly, head raised, tail erect and rigid, hairs bristling, pricked ears directed forward, eyes staring fixedly. These actions follow from the dog's intention to attack his enemy. As he prepares to spring with a savage growl on his enemy, the canine teeth are uncovered, and the ears pressed close backward on the head. Let us now suppose that the dog suddenly discovers that the man whom he is approaching is not a stranger, but his master; and let us observe how completely and instantaneously his whole bearing is reversed. Instead of walking upright, the body sinks downward, or even crouches, and is thrown into flexuous movements; his tail is lowered and wagged from side to side; his hair becomes smooth, ears depressed and drawn backward, but not closely to the head, and his lips hang loosely; the eyes no longer appear round and staring. These motions are explicable solely from being in complete opposition or antithesis to the attitude and movements, which, from intelligible causes, are assumed when a dog intends to fight, and which, consequently, are expressive of anger."

The cringing stoop of human humility is antithetical to the attitude of pride or defiance.

Trembling of the muscles is accounted for by the third principle—it is due to the escape of nerve force. Similarly laughter may, when not sufficing to relieve the emotion of merriment, be supplemented by a burst of tears, by way of escape for overplus nerve energy. In a future lecture I shall go into this matter in detail, showing you how each muscle of the face, by contracting, produces expressions. A formula in terms of muscular contraction may be easily constructed for hope, fear, rage, hatred, love, joy, etc. Dissimulation does not succeed in masking these expressions always, but it must also be considered. If you care to go deeper into the evolutionary study, it will reveal to you why the sexes appear alike until certain juvenile ages. It will show

you that all vertebrate animals are built upon one general plan, and deviate from each other in all particulars by easy gradations. It will not only show you that the "human face divine" is possessed by every mammal at intra-uterine periods, but that man's features are really retrograde affairs.* Man himself has not as good eyes as the falcon, nor has he the swiftness of the deer or olfaction of the hound, though he demonstrably descended from progenitors who were his superiors in these respects.

Darwinism will, it is true, shatter many a false conception upon which the artist doted, but it is merely a substitution of truth for falsehood, fact for glamour. It is not necessary for the artist, to-day, to believe in mythology to enable him to carve Aphrodite or Zeus. Emotion can be as well put upon the canvas—yes, better expressed for being understood, for the painter having recognized the evolved expression through the researches of Gratiolet, Spencer, Huxley, Haeckel and Darwin. The true artistic mind will not shrink from even so repulsive a subject as physiognomy among the insane. Bucknill and Tuke, on Psychological Medicine, afford you a treatise on that head. Instantaneous photography has recently revealed how little our poor eyesight is to be relied upon in determining the true position of animals in motion. Recent periodicals† can be consulted upon this subject, but the artist would blunder sadly if he were to paint animals in motion as the camera sees them, instead of trying to fasten in his picture the impression to which the defective human eye is accustomed. Both Haydon and Flaxman laud the Elgin marbles for their fidelity. There is in them a distinct departure from the legendary methods of chiseling with eyes shut and a master's words ringing in the ears. Better, indeed, to copy nature mechanically, and afterward thoughtfully add "*Il poco più*" of the finishing hand. "Art is a language. Followed to its legitimate significance, this definition affords at once a test and a suggestion of its character and possibilities; for language is but the medium of ideas, the expression of sentiment—it may be purely imitative or pregnant with individual

* Minot, *American Naturalist*, 1882.

† *Century Magazine*, July, 1882. *Popular Science Monthly*, 1882.

meaning—it may breathe confusion or clearness, emotion or formality, the commonplace or the poetic. The first requisite for its use is to have something to say, and the next to say it well.” Durand* asks: “Why should not the American painter in accordance with the principles of self government, boldly originate a high and independent style, based on his own resources?” As to the method thereof, he remarks: “Go first to nature, to learn to paint, and when you have learned to imitate her, you may study the pictures of great artists with benefit. If you ask me to define conventionalism, it is the substitution of an easily expressed falsehood for a difficult truth.” Cole wrote on the cover of a sketch-book, soon after his first visit to Europe in 1829:

“Let not the ostentatious gaud of art,
That tempts the eye, but touches not the heart,
Lure me from nature’s purer love divine;
But, like a pilgrim at some holy shrine,
Bow down to her devotedly, and learn
In her most sacred features, to discern
That truth is beauty.”

“Who shall presume to imitate the colors of the tulip, or to improve the proportions of the lily of the valley? The criticism which says of sculpture or portraiture that ‘Nature is to be exalted, rather than imitated,’ is in error. No pictorial or sculptural combination of points of human loveliness do more than approach the living and breathing human beauty as it gladdens our daily path.”†

Byron, who often erred, erred not in saying:

“I’ve seen more living beauty, ripe and real,
Than all the nonsense of their stone ideal.”

* Tuckerman, *Book of Artists*, p. 27.

† *Op. cit.*, p. 196.

‡ Edgar Poe, *Landscape Gardener*.

ARTICLE II.

A CONTRIBUTION TO THE HEREDITARY AND PATHOLOGICAL ASPECT OF VICE. By G. FRANK LYDSTON, M.D., Late Resident Surgeon of the Charity and State Emigration Hospitals, New York. Lecturer on Genito-Urinary and Venereal Diseases at the College of Physicians and Surgeons, Chicago. (Read before the Chicago Pathological Society, December 11, 1882.)

The hereditary and pathological aspect of vice in its protean forms, is a subject which has, of late years, attracted considerable attention at the hands of a few enthusiastic observers, and has been pretty thoroughly and exhaustively analyzed, but it has not, however, received sufficient attention from either medical or civil investigators to render superfluous further discussion of the subject by those who enjoy the relatively rare opportunity of practical observation of our criminal classes. I have, therefore, taken the liberty of presenting the conclusions drawn from somewhat extensive personal observations, although mainly corroborative of statements made by higher authorities upon the same subject.

There seems to be but little doubt that morbid physical conditions are often responsible, indirectly, for many of the phases of conduct that we term criminal. An individual who is suffering from severe pain is not in a condition of stable mental equilibrium, as many persons may be able to verify by introspection under such circumstances, and it is still more evident that one who is subject to profound nervous disorder is likely to suffer from impairment of the higher mental faculties, as evidenced by enfeebled will, and illogical reasoning, associated with a perverted moral sense. And not only the nervous system, *per se*, but through it, indirectly, disturbed functions of the structures of organic life may also be responsible for disturbed mentality. In this connection I will venture to quote a passage from a recent address by Dr. George Perkins, at the opening exercises of the University of Vermont:

“A man whose digestive system is a continual scourge, whose nervous system is feeble or irritable, whose brain receives a supply of impure blood, cannot be the same man morally that he would be were he in the full vigor of health. Well men are not always virtuous. Ill health is not always the sole cause of crime, nor can criminals be treated as invalids; yet crime is often both the parent and offspring of disease. Since we may not know the exact relation of pathological conditions to crime, we must punish crime as such, but because of our ignorance as to its cause, we may be liberal with our charity and lenient in our judgment, whenever, and to such extent, as they may not interfere with the welfare of society as a whole.”

The doctor evidently appreciates the fact that more law than justice is dispensed to criminals sometimes, but in the light of our present knowledge, it is difficult to see a solution of the problem which will serve to remedy the evil, or prove satisfactory to society at large.

The leniency and sympathy of the few are not likely to prove of great practical value to the criminal. I do not think that the influence of disturbed organic functions upon the mind is at all over-rated. The association of melancholia with a disordered liver, or of gout and a bad temper, may serve as striking examples of this fact, and hardly any one would claim that cheerfulness and a bad digestion are not incompatible. To determine an anatomical or pathological basis for crime is by no means an easy problem, but it has recently received considerable study from industrious scientists, although their results have been by no means conclusive. The studies of Benedikt and Osler, in this direction, have been especially interesting. Benedikt claims that in criminals the brain is atypical, and different from the average human brain in the cultured races. The variations consist chiefly in the atypical conformation of certain gyri and fissures, there being a confluence of many primary fissures, and there being found four horizontal convolutions. The experiments of Osler are, to a certain degree, confirmatory of Benedikt's, although not quite so definite. He claims, however, that the confluent fissure type is not so prominent as stated by Benedikt. A certain amount of disparity in the results of the two observers

may be ascribed to the probable fact that the American criminal type is not so strongly marked as the European. The chief sources of fallacy are, that this atypical arrangement of the fissures and gyri may co-exist with a superior general development of the convolutions, and that it has not yet been proven that the same arrangement does not exist in other classes of individuals. Further experiment and observation will be necessary to determine the co-relation between certain mental attributes and the confluent fissures and increased number of frontal gyri. The experiments of these observers have been solely with reference to the criminal cerebral type, but observations upon the condition of other organs in habitual criminals have been made by others. The results of the observations of Bruce Thompson, in the general prison of Scotland, are striking. To use his own words: "In all my experience, I have never seen such an accumulation of morbid appearances as I witness in the post-mortem examinations of the prisoners who die here. Scarcely one of them can be said to die of one disease, for almost every organ of the body is more or less diseased." These results do not differ much from those seen post-mortem in almost any large public hospital in which a large number of cases from the lower classes are treated, so that they can hardly be adduced as evidence of the pathological nature of crime. Most of the morbid changes which are responsible for many criminal actions are not physically demonstrable, but are too occult to be detected by any means of investigation which are, or perhaps ever will be, at our command. These changes are mainly in the nervous system, and oftentimes give manifest morbid results, even when the exact condition is not discernible. Another point to which I would call attention is the statement of Thomson, to the effect that physical defects and deformities were remarkably frequent among the convicts under his charge. My own observations do not confirm this, inasmuch as the physique of the men whom I observed was fair, on the average, and the proportion of physical deformities no greater than might be expected in any community of a similar size, although those that did exist were frequently very marked.

My own experience with the American criminal as represented by those confined in the Blackwell's Island Penitentiary, and which may be taken as a type, differs from that of Thomson in some respects. I found that the men were of fairly robust physique, on the average, and that the proportion of men who were really ill, aside from venereal and alcoholic affections, was comparatively small for such a large community, living under circumstances so favorable for the development of disease.

Malingers were, of course, numerous, and their pertinacity, and morbid appetite for specially prepared mixtures of green soap and assafoetida was certainly surprising; but the percentage of genuine invalids was quite small. Those cases of sickness which did occur, however, were often due to profound visceral lesions, but could generally be traced to the patient's habits of life, intemperance and exposure, with, in some cases an organization hereditarily defective. The reason for this difference in the results obtained by myself and those claimed by Thomson, is partially explicable from several considerations. The most important of these is the fact that the majority of metropolitan criminals, when so affected by disease that they can no longer carry on their avocation, which requires a considerable amount of physical vigor in its pursuit, enter the various charitable institutions and there terminate a miserable existence.

I found, therefore, in the Charity Hospital, the patients of which were recruited to a large extent from the very slums of the city, almost as great a variety and extent of pathological changes as those described by Thomson. A certain proportion of these patients must necessarily be excluded from the criminal type proper, thus diminishing the relative proportion of pathological changes found in the latter. There is no question in my own mind, but that the average results obtained by observations upon European and American criminals differ considerably, for another quite important reason besides that just given, and to which I will hereafter call attention.

The preponderance of the neuroses among the affections to which the criminal classes are subject, is strongly insisted upon by Maudsley, and in my own experience, this has been fully corroborated, for although, as I have before stated, the majority

of the convicts were healthy and comparatively robust, there was a strongly marked neurotic element in a large proportion of the cases of sickness requiring medical attention; epilepsy and neuralgias, and among the women cases of hysteria, being especially frequent. Cases of true insanity, however, were relatively infrequent, and I doubt whether many communities of a corresponding size, could show as few of the mentally disordered, as could that body of convicts.

Much has been said of the mental inferiority of the average criminal, and I have myself found that, as a class, they are mentally defective, often to the extent of imbecility, although often possessed of an extraordinary amount of brutish cunning. Occasionally, however, I have seen a really bright intellect among them, but generally in sporadic instances of criminality from the better class of the community, in whom necessity or acquired propensities were to a great degree responsible for their actions. The ordinary criminals appear to form one great genus.

Thomson states that he has never seen any manifestations of genius or artistic taste among criminals. On the contrary, there was seldom any difficulty in finding men of decided talent in the hospital under my charge. Exceptionally clever workmen in wood, such as expert cabinet-makers, experts in the manufacture of fancy articles and in carving, and skillful penmen, were nearly always at hand, even in cases in which the moral sense was extremely low. Probably the most important question relative to criminals is that of their moral status.

The assertion is often made that a certain class of our criminals are morally insane, and I think there is hardly a question of its truth. In nearly every instance of crime among habitual criminals, the question of the morality of the action is never considered, and indeed, there seems to be an entire incapacity for its appreciation. With these beings, crime is regarded as a business, subject to certain disadvantages, but having somewhat of the fascination of a game of chance. Their ideas of right and wrong seem to be based solely upon the extent to which their personal interests are involved, and the amount of risk of punishment incurred in the performance of a criminal action to attain certain ends. Their ideas of morality are not those engendered by an

instinctive sense of right and wrong, but to them it is something arbitrarily fixed by social custom for the protection of society, their natural enemy, a conformity to which is enforced by law, and a violation of which renders them liable to punishment. This absence of the moral sense is not confined to those criminals whose mental powers are of a low, or almost imbecile type, but it is also to be found among the more intelligent of them. When we consider this moral defect in the mental status of the more intellectual type of criminals, we can much more readily explain the failure of all moral persuasion in the case of the lower orders, in whom the mental state borders closely upon imbecility. To quote Maudsley, "Impulses to theft, incendiarism and violence are quite frequent in cases of imbecility, in which the passions are strong, and the intelligence feeble." We may readily appreciate a condition of moral imbecility, if we are at all observant of the creatures who fill our police courts and jails.

There is one peculiar fact which I have often noticed with reference to the moral sensibility of criminals. A criminal may be utterly oblivious to all moral considerations in many directions, and yet have a species of contempt, or even abhorrence, for certain phases of vice. Strange as it may seem, there is a certain degree of caste even in a prison, and the supreme contempt evinced by some of the assault and battery men for their brethren of the larceny list, among the criminals under my charge, was amusing in the extreme. In this connection, I will cite the case of the Rev. Brother Cowley, who, it will be remembered, served a time in the New York penitentiary, for his maltreatment of young children who had been consigned to his care in the so-called "Shepherd's Fold." I have seldom seen a person held in such aversion and contempt as was this man by the rank and file of the prison. The appellations bestowed upon him were more expressive than elegant, and I remember numerous arguments between the other convicts and himself, in which he endeavored to try the effect of moral persuasion upon them, and in which the reverend rascal got decidedly worsted. These men, ordinarily so completely lost to all moral impressions, and who deemed highway robbery and murder incidental to their lives, and the most natural thing in the world, although subject to the risk of detection and punish-

ment, had sufficient manhood to loathe such inhumanity as had been practiced by this educated fiend.

Analogous instances are numerous but I will cite but one other example. In the female department of the penitentiary hospital were criminals of all grades, from the accomplished female confidence operator, down to the petty larceny and shop-lifting class, and there was ample opportunity to observe the peculiarities of female criminals. There was as great a degree of caste among them as could be well imagined, and among the better class, the lower orders of viciousness and wrong-doing were held in great aversion. Perhaps the most striking instance was that of Madame Berger, the notorious abortionist, who was under a five years sentence for causing the death of a well-known young woman of Brooklyn, a case that created considerable excitement at the time. This woman was held in about the same loathing, even among some of the lowest of these female dregs of society, as was Brother Cowley among the men. She was avoided and shunned by nearly all of them.

I have spoken of the neuroses as affections which have been strongly insisted on as a basis for crime, and have also stated that the neurotic type, in my experience, prevails among the disorders to which criminals are subject, and in reference to this point the question may be asked, whether the sequence of cause and effect is at all definite? and whether the same tendency to crime would not exist if these affections or neuroses were not present?

It must be confessed that the problem is by no means clearly solved, and we must acknowledge the fact that crime is frequent in cases in which there appears to be no neurosis or other predisposing cause. I think, however, that crime would not be by any means so frequent, were these causal elements eliminated. They undoubtedly lessen the power of volition and self-control, in the same manner, if not in the same degree, that they do in the higher walks of life, in which criminal tendencies are relatively infrequent, but in which the predisposition probably exists in many instances, and crime would actually occur, were the circumstances and necessities of the individual such as to act as existing causes. It may be argued, that there being a defective nervous organization among the lower types of humanity, as

represented by the criminal classes, we might conclude, *a priori*, that actual structural disease, or even functional disorder, would in them act as a more powerful causal element of crime than in persons in the upper strata of society, in whom the nervous organization is more perfect, and the mental discipline better. This argument is a valid one, but is, I think, counterbalanced by the disadvantages accruing from that same greater perfection of organization, which is readily appreciated, when we consider its greater sensibility and more powerful tendencies to emotional and erratic impulses, which are such prominent factors in the neuroses among our better classes.

In the lower ranks of humanity, a defective cerebral development is the rule, and it is from this lower class that the criminal element of society is chiefly derived. Now, it would be difficult to determine precisely how great an influence the causal elements of necessity and privation exert in such people, but it is obvious that there is something more than these factors required to explain the prevalence of crime among them; and what could be a more logical explanation than the fact of the existence of a defective cerebral development, with a consequent inferiority of the higher faculties of the brain, and a predominance of animality, which is so evident in the majority of criminals? A certain proportion of these persons might be saved from criminal impulses by proper training and discipline, and removal from the baneful influences by which they are ordinarily surrounded, but by far the larger number of them are afflicted with a nervous organization primarily so defective, that no amount of pains would serve to prevent the development of criminal tendencies on the occurrence of the slightest exciting cause. In this connection, however, we are compelled to acknowledge the well-known fact that the difference in the relative frequency of crime in the two extremes of society is, to a great extent, due to the more powerful influence of temptation and necessity in the one than in the other. This does not at all refute our argument as to the existence of defective mentality as a cause for crime in the lower walks of life, for, as we have seen, a certain proportion of the lower class of criminals might be saved by proper training and influence, while a certain proportion of individuals of the higher classes are possessed of

an inherent predisposition to vice, which is liable to develop into actual crime upon the occurrence of any exciting cause.

Acquired tendencies probably have much to do with the causation of crime in many cases, and this statement holds good especially in the case of the American criminal class, in whom the local effects of the co-operative influences of time, heredity and natural selection, in each community of low-bred criminals and wrong-doers, are not so manifest as in Europe. The same explanation would suffice for the disparity of results obtained by Benedikt and Osler, and for the statements of Thomson as to the frequency and multiformity of pathological changes, and the low brutishness noted in the criminals found in the Scottish prisons. In summing up the evidence in favor of a physical basis for vice, I think that a defective or imperfect general cerebral development, with its attendant predominance of the animal type, or superior development of the lower brain centers, must be conceded to be a powerful cause, and although the co-relation of actual pathological changes and crime is not at present demonstrable, or at all definite, the powerful influence of bodily ailments upon the higher functions of the brain must be allowed by every one. The old adage of "*mens sana in corpore sano*," is perhaps nowhere more *apropos* than in the consideration of the causes of many instances of criminality.

I have spoken of the influence of heredity, which is so strongly set forth as a cause of crime, but only with reference to the hereditary transmission of physical defects and pathological conditions which react upon the mental and moral status of the individual. In addition to this influence of heredity, there is a special influence that is more important, and which is by no means a new consideration, having been recognized by most of the authorities who have given their attention to this subject. I refer to the hereditary transmission of intellectual and moral peculiarities, which as truly follows a definite law as does that of physiological and pathological conditions. An hereditary tendency to vice undoubtedly exists, and must be recognized in certain instances, as fully as are hereditary tendencies to disease of special types. The imprint of heredity upon mentality may be quite as strongly marked as it is upon the animal organization itself, and

the exercise of the mental powers in any vicious direction is as surely transmitted to future generations, in many instances, as a predisposition to vice, as is a taste for art, or scientific pursuits, in beings of superior intellect. To quote the words of Maudsley, "Just as a man may inherit the stamp of the bodily features and characters of his parents, so he may also inherit the impress of their evil passions and propensities. Of the true thief, as of the true poet, it may be said, that he is born, not made." Although this position is, in many instances, supported by fact, yet there are many cases in which it would be difficult to exclude the influence of circumstances and acquired tendencies. Ribot, in his excellent work upon heredity, touches upon the hereditary nature of vice. He makes the statement that such evil propensities as avariciousness, drunkenness, dishonesty, thieving, and a passion for gaming, are very often hereditary, and as an illustration of the well-known influence of heredity in the production of thieving propensities, he cites instances where whole families were addicted to stealing and like offenses. He also cites the case of a lady, who was afflicted with an inveterate passion for gambling, and whose son became a most reckless profligate and gambler, his evil tendencies developing when he was not at all subjected to the baneful influence of his mother's example. Whether it is instance resulted as a consequence of the mother gambling during the period of her pregnancy, is not stated, but some might take that view of its causation.

It is a demonstrable fact that children of illegitimate parentage are peculiarly liable to become addicted to vice and crime, as a result of an hereditarily deficient moral sense, although it cannot be denied that such children are not usually favored with the tender care and judicious training bestowed upon children born under more favorable auspices, and that this has much to do with the development of immorality. Even when they are placed under the most favorable circumstances, however, their hereditarily vicious propensities are liable to exhibit themselves from the action of exciting causes which are many times remarkably slight. Consanguinity in the parents has doubtless as powerful an effect upon the moral and intellectual status of their offspring, as it often has upon the physical, which is so well recognized, and

moral imbecility, or, at least, a perversion of the moral sense, in the children, is not unlikely to result from such unions. Its effect in producing ordinary mental inferiority, or even insanity, is fully recognized. Parents possessing an unstable nervous organization, and who are perhaps afflicted with neuralgias of various kinds, epilepsy, chorea, hysteria, or allied affections, are also usually of inferior will power, and are not logical thinkers. They are quite likely to be erratic and notional, or a "little odd," as it is often termed. These defects are frequently transmitted to their offspring, and perhaps are intensified in them, and but too often associated with defective mentality, and a certain degree of moral anæsthesia.

We have, then, a strong predisposition, if not an inherent tendency to crime, and it is obvious that when it occurs, there are several factors in its production which should be recognized. These are, first, a nervous organization primarily defective, and either in a condition of actual disease, or strongly predisposed thereto. Second, a defective moral sense, or, so to speak, a moral anæsthesia. Third, a faulty and illogical reasoning power, which is liable to subvert the interests of the public to the seeming welfare or pleasure of self. Fourth, a vacillating and feeble volitional power. Sometimes, too, we have superadded to these causal elements, that of actual organic disease, with its attendant exaggerations of the moral perversion already existing. Against these powerful influences, especially when, as is often the case, they are associated with improper training or example, and the forces of necessity and temptation, many of the poor creatures so afflicted are unable to contend. The same argument is applicable to those unstable nervous organizations which so often become the victims of dipsomania. It is a well established and almost indisputable fact, that there are few more powerful factors in the production of drunkenness than heredity. It is not my purpose to enter upon the various causal elements of inebriety, but merely to mention this single predisposing cause, which is perhaps one of the most important to be considered. Here, again, we have a faulty nervous structure, the equilibrium of which is easily overthrown, in addition to a will power hereditarily weak. It is also true that traits of character, and nervous

and mental defects which are acquired in one generation, may be transmitted to the next by the inexorable power of heredity, and so on for successive generations, retrogression being enhanced by acquired proclivities and moral conditions in each, until finally the race or family becomes extinct, nature thus relieving society of these moral pests.

There is something to be said with reference to the influence of uncontrollable impulses in the production of crime, and it must be conceded that deeds of violence such as murder or assault, often result from what must be termed "an uncontrollable impulse." But impulses to do violence under certain provocation, perhaps, arise in the best of us at times, and why is it that one should have the faculty of self-control rather than another? There may be no deficiency of the moral sense, *per se*, in an individual, and yet under proper stimulus he may commit murder. Have we not here, also, in many cases, the imprint of heredity in the form of defective mentality, with a consequent deficiency of volitional self-control as a predisposing cause to the act of violence? Very few murderers entertain the slightest idea of the moral relations of the act at the time of its commission, or reflect upon its consequences, but as the result of some great excitement from real or fancied wrongs, or the effect of alcohol in a subject in whom the power of self-control is hereditarily deficient, the small amount of that faculty he possesses is lost for the time, thus giving his evil animal passions full sway, and leading to a deed of violence, which, aside from the dread of consequent punishment, he may forever afterward regret. Many times, however, a murderer may regard his deed of violence as an eminently proper thing to be done, and as the only measure which will, in the least, satisfy his thirst for revenge or reparation, and indeed there are some injuries that cannot be repaired in any way, nor can anything but the life of the offender even approximately atone for the wrong inflicted. The self-consciousness of having violently deprived the offender of life, is a measure of satisfaction to such homicides. The man who kills the destroyer of his domestic happiness, or the betrayer of his sister, may be momentarily insane at the time of the discovery of his wrongs, and may kill the offender while such insanity exists, but

he may, on the other hand, be mentally and morally sound, and regard the case, not from its legal aspect, but from the standpoint of justice. Could any moral persuasion, however strong, convince such a man of the immorality of the act which he meditates? Not but that in after years he may regret the deed, however justly done, for I doubt much if there are many men, not morally defective, who can slay another, even in self-defense, without having an impress made upon their lives and characters which will tinge them ever after. I make this statement as a matter of personal observation. The fear of punishment often restrains a man from homicidal impulses, even when he is convinced of the justice of his cause, and would follow the old Mosaic law to the letter, if allowed to follow his own judgment and inclinations. Cases of this kind must often be excluded from our list of criminals who are predisposed to acts of violence by a defective mental and moral tone, but they may, on the other hand, be just such cases as we have considered, in which the injury suffered constitutes a more than sufficient exciting cause for the complete overthrow of all moral reasoning, and a thorough subjugation of the higher faculties of the mind to the merely animal impulses.

A very important phase of vice, and one which merits attention with reference to the influence which heredity exerts in its production, is prostitution. This is a subject which has received pretty thorough ventilation at the hands of enthusiastic moralists who have been earnestly seeking for a means of correcting or regulating the social evil, but with little success.

These people, it seems to me, take a very one-sided view of the matter, and make very little allowance for certain elements in the production of this vice, which I believe are so important. Some ascribe their want of success in controlling the evil to the fact that "the supply is regulated by the demand," and arguments of that nature. Now there is doubtless much truth in this assertion, but would it not be well for them to investigate the matter a little more thoroughly, and in a more liberal manner, with a view to the discovery of more logical and powerful causes? The same hereditary influences are brought to bear in the production of prostitution that we have found to exist in the

causation of the various forms of vice, and immorality in general. We have the same congenitally defective nervous organization, and the same moral insensibility that we have seen in connection with other vicious tendencies, or we have a similar transmission of mental and moral peculiarities; and it is my opinion that a large proportion of the women who are leading lives of shame are indebted therefor to an innate tendency to immorality, due to a deficient appreciation of the moral law, which, under favorable auspices, becomes a permanent factor of the daily life of the individual. This inherent immoral proclivity may not be hereditary in all instances, but may be peculiar to the individual, there being an immediate family line noted for virtue and uprightness, as is frequently the case, and it matters not whether it consists in a predominance of the animal passions alone, the reason and moral sense being unimpaired, but temporarily overpowered, or in a diminished appreciation of the moral law, associated with a feeble volitional power, the innate predisposition remains the same, and in either case may be hereditary. The predisposition existing, the exciting cause is of merely secondary importance, and such influences as the love of admiration and dress will be found to be the causes of fully as many instances of falls from grace, or at least of the adoption of a life of shame, as are the temptations and deceptions spread for the unwary by unprincipled persons.

Slight causes, indeed, are a fondness for admiration and dress, when contrasted with the moral law and other influences which are brought to bear upon a woman, with a view to keeping her in the right path, and only a recognition of the existence of a deficient appreciation of that moral law, will render such cases explicable. An admirable instance of the effect of such influences as I have given is cited by Sanger, in his history of prostitution: A family of seven sisters were induced to leave a moderately comfortable home, in a New England town, and enter a life of shame in the metropolis, one after the other, the sole inducement being the life of luxury and ease which such a course was supposed to bring. They happened to establish themselves in the same locality, occupying a number of buildings upon a prominent street, which has since borne the appellation of "The

Sister's Row." This is by no means an isolated instance, for it is a notorious fact that the proprietors of houses of ill-repute in New York City make, at more or less regular intervals, visits to the smaller New England towns and villages, for the purpose of recruiting their supply of boarders, and it is also true that there is usually a more or less definite understanding as to the life which they are expected to lead, although painted in glowing colors as to its luxuriousness. Surely, there must be a defective moral sense in such cases, for no matter how pleasant the prospective life, as depicted by the wily procuress, the fact that it is a life of sin could not be otherwise overlooked, or, at least, ignored.

Necessity, it is true, is at the bottom of many cases, but even this is many times more apparent than real, for how very many of these people entertain the most extravagant notions as to their necessities, and would not be satisfied with a life devoid of luxuries. Then, too, the predisposition existing, an excuse so valid as that of necessity, is very acceptable to one whose moral sensibility is already of a low grade, and I think that this moral anæsthesia is really the primal source of many of the departures from virtue and adoption of a life of vice. With reference to those who are really unfortunate, of whom there are but too many, I think that they comparatively rarely enter a life of shame, but seek to conceal their misfortune, and are but too anxious to redeem themselves should the opportunity offer. In spite of the views of many one-sided moralists upon this matter, I think that it will be found that in nine cases out of ten of the upper classes of the demi-monde, the life of the woman is one of choice rather than compulsion, and that the majority of them would not alter their mode of life if they could, and I have seen the experiment of redemption tried too often to believe otherwise. Exceptionally, through religious enthusiasm, a reformation may occur, but many of such converts are very prone to backslide. Those of the women of ill-repute who signify their willingness to adopt an honest life, are usually those whose lives have become squalid and miserable, and who are, perhaps, afflicted with disease. These poor creatures are, of course, but too willing to leave a life which no longer has charms for them,

and which holds out no other prospect than that of necessity, and a miserable death. While their attractiveness yet exists, and they are in demand, they can command a life of luxury and ease, and moral persuasion has but little effect upon them. Many cases of prostitution arise among the typical lower criminal classes, the same influences being brought to bear as affect the production of other vicious tendencies among such people. These cases are usually those in which there exists a sufficient amount of personal attractiveness to render a life of shame more profitable than one of petty thieving. Such women eventually drop back into the lower strata of criminal life when the period of their usefulness in their more gilded existence has departed. In such cases the innate tendency of their organizations inevitably causes them to gravitate lower and lower in the scale until they reach the very depths of degradation. Anyone who has observed at all closely the class of beings found in our houses of correction or charitable hospitals, particularly those in which a large number of cases of venereal diseases are treated, will be able to attest the truth of this. I have said but little in regard to the pathological aspect of prostitution or to the effect of acquired tendencies, but these are phases of the subject which undoubtedly exist, and which must be recognized.

It is necessary to say but little upon either of these topics however. The influence of the neuroses in the production of prostitution is quite as manifest as in the case of other vicious proclivities, and exerts itself in much the same manner, causing the same moral perversion in this as in other directions. The reflex derangements of the nervous system due to either functional or structural disease of the sexual organs, and attended by a deranged sexuality with its coexistent moral perversion, constitute a probable cause in some cases, as will be evident when the exaggerated results of these disturbances in the form of erotomania and such conditions are taken into consideration. With reference to acquired tendencies, it is obvious that unless proper teaching and example be brought to bear, and evil influences eliminated, a departure from the right path is quite liable to occur; and how much more potent evil influences are likely to be, if, as in the case of illegitimate children who are primarily

the offsprings of evil passions, a strong principle of heredity exists as a predisposing cause. The most prominent question arising from the considerations which I have endeavored to present in this paper, is that of the proper remedy for the prevention or diminution of the various phases of vice, as deduced from the causes set forth. It must be confessed, however, that in this respect we are not very clear, and it is not at all likely that we will ever attain any very marked results in this direction until the co-relation of cause and effect is much more definitely settled than it is at present.

It is evident that if the general bodily health has a direct influence upon the mind, the medical man can, and probably does accomplish quite as much indirectly in improving the moral status of society as can the church, or, what is often times more efficacious, that wholesome and definite dread of legal punishment which is at present the chief protection of society. Education and proper mental and moral discipline, with a removal from temptation and other malign influences, will save quite a number of individuals, even if possessed of a certain amount of inherent predisposition. Like a predisposition to disease, a predisposition to crime need not necessarily develop into actual lawlessness if proper steps are taken to prevent it.

It does not necessarily follow from the statements embraced in our consideration of the causes of crime, that punishment may not be efficacious in its prevention, even where morbid physical conditions are responsible for the evil tendencies of the individual, for even insane persons, as claimed by Maudsley, may restrain their morbid impulses where they have such a powerful incentive for so doing as the dread of commitment to an asylum. Much may be done in the right direction by the prevention of marriage between neurotic subjects, and of persons nearly related, and this is as true with relation to the prevention of crime as of insanity.

But no matter how energetic our efforts in these various directions may be, we can but hope to diminish the frequency of crime to a slight extent, and can never hope to control it entirely as long as our knowledge of the co-relation of its causes and effects is as imperfect as it is at present. We will have to accept the

inevitable, and look upon vice as we are compelled to regard certain diseases as due to causes more or less definite, but which are as yet only to a slight degree, if at all, under our control. We can, however, as suggested by the address which I have quoted in the early part of this paper, be rather more liberal with our charity and more lenient in our judgment, than if these causes were entirely unappreciated.

137 E. Madison Street.

ARTICLE III.

SECONDARY BATTERIES AND THE SO-CALLED STORAGE OF ELECTRICITY.* By ROSWELL PARK, A.M., M.D., Surgeon to the Michael Reese Hospital; Lecturer on Surgery in Rush Medical College; President of the Chicago Electrical Society.

It is but a comparatively short time since *amateurs* in general and electrical science in this country, began to hear of the so-called "accumulation of electricity" and of "storage batteries." They have been much longer known, of course, to professional electricians, many of whom have devoted to the subject a great deal of patient thought and study. As the matter stands to-day it is perhaps the most important topic at present before the electrical world, and as such is an eminently proper one for discussion in this Society. It is my purpose, then, to-night, to go briefly over the ground, giving a short account of the steps by which our present position was reached and a general idea of the *modus operandi* of secondary batteries, their construction, and of some most recent American improvements and patents covering ingenious applications of the same to actual work.

To sum up the whole idea in brief compass, it consists in storing up energy, in converting actual or potential energy into a latent form, and then releasing it again in active operation. It is well known that by proper methods any one kind of force may be converted into any other. In the ordinary galvanic battery molecular attraction or chemical energy is correlated into that

* Read before the Chicago Electrical Society, Jan. 15, 1883.

form of vibratory motion known as electricity. In the "storage battery" this same process takes place only at the expense of several correlations of the particular force originally resorted to.

Let us take the simplest form of secondary battery,—two lead plates separated from each other, each connected with one pole of a galvanic battery, say a Grenet cell, both plates immersed in water acidulated with 10 per cent. of sulphuric acid,—and study what takes place. With the passage of the current electrolytic action occurs, the acidulated water is decomposed, and the oxygen thus given off goes to the + pole or plate, which thus becomes coated with a film of plumbic oxide. When this film is thick enough the cell is in a condition to give some result.* Let us now disconnect this element from the Grenet cell, and simply join the wires connected with the two lead plates. The action is then, so to speak, reversed, as follows: The metallic lead in the plate connected with the — pole, which was not covered with oxide, now acts like the zinc plate in an ordinary battery, partly giving up all the hydrogen which it has absorbed while the water was decomposing, and partly combining with the acid in the water, forming plumbic sulphate. The hydrogen thus released, and that from the acid which has been replaced by lead, now unite with the oxygen of the plumbic oxide coating the other plate, reducing it to a lower oxide, part of which lower oxide is also converted into a sulphate. When the plates are again charged the effect of the current is to convert the lead sulphate on one plate into spongy metallic lead, and that on the other into peroxide.

To state the action in different terms, it is this: Chemical action in the Grenet cell is converted into electrical energy and as such is sent into the secondary battery where, by conversion, it again becomes chemical energy, producing the changes above specified. It is this chemical energy which is stored up, and not electricity. When the wires or poles are again joined it is once more converted into electricity, ready to do any kind of work and to be transposed into heat or some form of motion.

The advantage of all this obtains just here, that this second correlation of force can be almost indefinitely postponed and commanded at will. The potential energy stored up in the secondary

battery, *minus* a certain loss, can be used or drawn upon days or even weeks after it was accumulated, though the longer this be postponed the greater the loss. Hence, the term "storage of electricity," which we see to be erroneous, as well as the term "storage battery." The strictly proper term to use, then, is "polarization," or "secondary" battery, instead of "accumulator;" though I doubt whether the phrase "storing electricity" will soon pass out of common use. The secondary current is of comparatively brief duration unless resistance be introduced, but its total energy is nearly equal to the total amount received from the charging source. Inasmuch as it is brief it will be much stronger while it lasts than the primary or battery current. How advantage is taken of this fact shall appear further along.

Knowing now what a secondary battery fully consists of, *in its simplest shape*, we can more intelligently go over a few points in the history of its development.*

Quoting partly from Morton's paper, I would mention the following facts: Gautherot noticed in 1801 that the platinum or silver wire which had been used for terminals of a battery doing electrolytic work could yield a brief galvanic current without the aid of a battery. Ritter, of Jena, in 1803 confirmed this observation, and even made what he called a "secondary pile" of discs of copper and moist paper, alternately placed. This, in a small way, had all the properties of one of our modern instruments. He experimented with many metals. Marianini, of Vienna, corrected the error of those observers who had regarded all such "reservoirs" as they would Leyden jars, and showed that this power was due to polarization.

Humphry Davy, De la Rive, and Faraday included the subject in their researches, but Grove, in 1839, made the most positive advance by showing that how a constant current was kept up for days, when two glass tubes, one containing oxygen, the other hydrogen, were lowered over the two submerged ends of a platinum wire circuit. This arrangement was known as his "gas battery." If in tubes properly arranged to form such a

* Those desiring greater detail are referred to Morton's readable paper in *Harper's Magazine*, Dec. 1882, which contains numerous references to the bibliography of the subject. Also to general works on Electricity, especially to Planté's

battery the gases be first generated by electrolytic action, or, much better still, if in each tube be hung a piece of platinum foil, covered with spongy platinum, and connected by wires not submerged, and these tubes then filled with gases as before, a counter-current will be generated as soon as the original is stopped, and last as long as any gases are exposed to the action of the spongy platinum. Grove constructed a battery of fifty such cells, and produced effects precisely similar to those we now get, only much weaker.

Many others among original workers have devoted much time to the development of the experience thus gained, among them Wheatstone, Schoenbein, Poggendorf, Becquerel, Du Moncel, Planté, Du Bois, Reymond, Thomson, Varley, Tait, and numerous others. But no one has done as much as M. Gaston Planté in studying the principles involved, and elucidating them for others. To him, perhaps, more than to all the rest combined, are we indebted for what we know of the matter to-day.

In 1879, Planté published his researches (*Recherches sur l'Electricité*), in which he goes over the ground most thoroughly. Planté's simple cell is the one which I have already described. The great drawback in the use of such cells is the length of time it takes to oxydize the lead, and convert it into that spongy form, in which it gives the best results. Lead does not oxydize rapidly, but requires months, or years, even, in acidulated water, and until there is, when charged, a good thick coating of oxide on one plate, and of spongy lead on the other, our cell will be a disappointment, while all the lead not so converted is, literally, a dead weight.

To form such a battery more speedily, that is, to put its lead plates in the best condition, Planté adopted this method: He found two or three Bunsen or Grove cells more effective than a large number of ordinary sulphate of copper cells. The first day the secondary battery is charged, alternately, in opposite directions, five or six times, and discharged after each reversal, the charges in each direction lasting, respectively, fifteen, thirty and sixty minutes. The last charge is allowed to remain until the next day, when the process is repeated, but each charge lasting two hours. The element is then left at rest, charged, for

eight days, after which the charge is reversed and allowed to remain fifteen days; then, for one month, two months, etc., the power still increasing, until the whole thickness of the lead plates is involved in the alternating chemical processes. The intervals of rest allow the crystalline structures of the lead time to harden before reversal of the current.

I had, in August last, the pleasure of going over more or less of this ground with M. Planté in his own laboratory, and was delighted with his results. He showed me a secondary battery of 840 test-tube cells, each with its two tiny lead plates, the whole arrangement being some years old. These were so arranged that they could be coupled either for quantity or tension. When charged side by side, and discharged in series, the differences of potential were very great. With half this battery, (420 cells), thus charged from two Bunsen cells for a very few seconds, I saw him obtain all the effects of static electricity. He also showed me a very small secondary battery, not more than ten centimetres high, which he had had in use for several years. Connecting this for twelve seconds with the two Bunsen cells, and removing it, he was able to so heat a platinum wire as to light a taper twelve times. He also demonstrated to me what he calls the "residual charge" after the element has been apparently completely discharged. In fact, in the course of a day this residual charge can be shown a number of times in one cell. What follows will serve to explain this fact.

Before going on to further consider the work of others, this seems a suitable time to note more exactly the chemistry of the changes which take place during the alternate processes of charging and discharging. The oxides of lead vary in their conducting power, the highest oxide being the best conductor. When reduction of this oxide occurs, by discharge of the battery, some of the oxygen given off undoubtedly goes to help oxydize the remaining metallic lead. This fresh lead doubtless in time assumes the same degree of oxidation as the rest, but very little of the peroxide is ever reduced to the lowest or protoxide, or it would be eagerly attacked by the sulphuric acid. The lower oxides formed by reduction are of little use for battery purposes, and their resistance is much greater; hence, the gradual loss of

battery power on allowing a charged battery to stand. Hence, also, the reason that the oxygen plate constantly increases in capacity; and, hence, too, the residual charge.

Most of the hydrogen is either absorbed by the hydrogen plate, especially when the lead is in a spongy condition, or, as some hold, it enters into very feeble combination with it. If at any time the current be reversed from the usual order, the coating of oxide will be fully reduced by the nascent hydrogen evolved on it, and a coating of porous lead will be left. Hence, the benefit of alternating the current in "forming" a cell. This porous metal is in a much better condition to absorb and retain hydrogen. After the process of forming is complete the hydrogen plate does not increase in capacity as does the oxygen plate.

In ordinary descriptions of storage apparatus enough importance has not been attached to the varying degrees of resistance in the coatings of the lead plates. Indeed, I am not sure that the subject has been fully investigated until lately. Brush has pointed out how barriers to the free passage of the electric currents are formed, as not only the peroxide is reduced by the combination of hydrogen and oxygen *within* the mass of peroxide, thus generating water which is a poor conductor, but also by the same production of water the pores of the spongy lead on the hydrogen plate.

A great detriment to the successful operation of polarization batteries is this: the coating of peroxide on the oxygen plate occupies more space than did the original lead. This shell must expand in forming, and evidently will have a different co-efficient of expansion. The tendency then is for this coating to crack. If one side of a plain lead surface be varnished and the other side be oxydized, the side acted on becomes convex; when the oxide is reduced the plate becomes concave. This must exert a disintegrating action on the coating and cannot but be detrimental. Finally, the coating is liable to peel off, or to be detached by liberation of gases when the charging current is too strong. Moreover, a portion of lead sulphate is formed whenever the oxide is too much reduced; this occupies more space than the oxide and increases the above effect; it besides, fills up the pores of the spongy mass, and is a bad conductor.

It will thus be seen that in the secondary battery of the future many obstacles are to be overcome. How far they have been surmounted in that of the present is a part of the subject now to be dealt with.

Camille Faure has studied how to "form" the elements more speedily than can be done by Planté's process, and how to reduce the dead weight,—a double problem. Planté had combined a number of plates in condenser shape, or had rolled them up concentrically, but depended on the slow process to oxydize them. Faure made the happy discovery that he could quickly prepare them by covering the lead plates with a paste of red oxide and sulphuric acid, and then rolling them up, separated from each other by strips of rubber or sheets of felt kept in place by lead rivets. This red lead is largely converted into a sulphate, and this on the first action of the charging current reduced, as before, on the one plate into spongy lead, on the other into peroxide. Faure's batteries are now often made of numerous flat plates, properly connected, covered with the paste and then insulated from each other by some woven fabric, and the whole packed in a rectangular box filled with dilute acid. However arranged, when the charging current ceases there results a condition of unstable equilibrium. When the poles are connected a vigorous current in the opposite direction is the result.

Still later, and within the year past, Faure has guarded by U. S. Letters Patent (252,002), another improvement. The electrodes are made not by formation of a spongy layer as a part of the original plain, but by the addition of a layer of active material—which may be of metal, metallic oxide or salt—which layer is capable of becoming porous or spongy—to suitable plates or supports which latter may be of non-metallic substance. This layer may be deposited with paste, cement, by galvanic action, chemical precipitation, or otherwise. In order to render the active layer more porous inert material may be mixed up with it; for example, crushed coke. It is retained by an open-work or porous medium, which allows free percolation of electrolytic fluids, but prevents separation by jarring. The retaining medium may be felt, asbestos paper, netting or gauze of cane, gutta-percha, or any suitable material. The whole space between the

electrodes may be occupied by porous material. In place of dilute sulphuric acid a solution of any salt will answer.

Prior to these last patents of Faure's, Houston and Thomson devised a different form of battery. In a proper vessel a plate of copper is suspended near the bottom. The cell is filled with solution of zinc sulphate. Near the top is a plate of carbon; the two plates being separated by a porous diaphragm. The action of the charging current is to decompose the solution, the zinc being deposited in metallic state upon the carbon. The liberated sulphuric acid attacking the copper forms cupric sulphate, whose solution remains at the bottom on account of its gravity. Connect the two poles of this cell and we have the conditions of a Callaud or gravity cell, a current being at once generated. It is an ingenious though not powerful battery.

D'Arsonval hit upon nearly the same plan at about the same time. De Pezzer claimed very great advantage for extremely thin plates of lead; but the reason for this was self-evident. De Meritens modified previous plans by folding his lead plate like the leaves of a book, and then, as it were, interleaving them. Kabad, in order to increase surface and decrease weight, figured his plates with perforations. Ayrton proposed to decompose the acidulated water under pressure, and to utilize the extra hydrogen given off.

Rousse has constructed a very ingenious cell, his object being to employ those metals which best absorb gases. To this end he inserts in the acidulated water a plate of lead which shall be the oxygen pole, and a plate of palladium, which absorbs 900 times its volume of hydrogen. This cell is very powerful. He makes another, with one plate lead, as before, and the other of sheet iron, which absorbs 200 vols. of hydrogen—placing both in a fifty per cent. solution of ammonium sulphate.

Lastly, Maiche re-charges ordinary cells, when exhausted, by placing them in the current of an ordinary dynamo, it being well known that Leclanché cells, for example, can be thus recharged.

None of these devices, however, with the possible exception of the palladium cell, excel a well-formed Planté element. To turn now to what American talent has lately accomplished in this direction, the following claims or specifications of patents are certainly worth notice:

Brush patents (263,756) an alloy of lead with a non-oxidizable substance, upon which an active absorptive coating is applied. Another patent of his (264,211) covers a device for placing in a bath numerous plates or elements of lead, connected with the oxygen pole of a generator and a single electrode of lead or copper connected with the hydrogen pole, by which the former are all charged, or coated with oxide. They can then be removed, and placed in individual cells, all ready to charge and discharge. One action then suffices to reduce into spongy lead the coating on the plate to be used as the hydrogen plate, and to assist in the formation of the coating on the other. He has further patented (266,090) a method of ribbing the plates, so that they shall better hold the coating they are to receive, and expose a larger surface.

Eaton's patent (266,114) covers the treatment of skeleton plates in a solution of metallic salts, as, for instance, plumbic acetate, in the presence of zinc, by which, the zinc having a greater affinity for the acetic acid than the lead, the latter is obtained in spongy form upon the plates. These plates are then coupled up as usual to form the battery.

W. A. Shaw's patent (266,262) includes these improvements: an addition to the lead, or lead oxide of sulphur, and the preparation of the two into a paste with sulphuric acid; a solid compound or salt which is soluble, and whose solution is an electrolytic fluid, as a filling between the electrodes, when mixed with some porous material; and a special preparation of the electrodes with potassic nitrate or similar salt, to render them more active. For this latter purpose, they are dipped into a saturated solution of saltpeter, removed to dry, and then repeatedly dipped and dried; all of which gives them a sort of glaze. He further makes the electrodes tubular, so that a current of cold air may be passed through them while they are being charged, to overcome elevation of temperature. Twenty parts of red lead to one of fine sulphur, or equal parts of white lead and sulphur, used as a coating, give good results. For instance, if a coiled or serpentine tube be used as an electrode, this coating is pasted into all the interstices before being finally glazed. For porous filling, sand or sawdust, mixed with any of the alkaline nitrates, or zinc sulphate, or various other salts, may be employed. Shaw has also discovered that an

alloy of bismuth and lead, say 1-10 of one per cent. bismuth, is an improvement on pure lead. He makes all his tubular electrodes with a core of pure lead and an outer surface of this alloy.

Blanchard's plan (267,138, is for concentric leaden cylinders, with perforated tubes in annular spaces between, said cylinders being so raised as to give outlet below, and a filling of granulated lead or oxide of lead packed into the annular spaces.

Starr (267,275) would mix finely divided active material, as red lead, with a non-active material, which, being brought into a plastic or fluid condition, sets or hardens in a porous condition without artificial heat. Finney's patent (267,860) covers the use of leafy, flaky or fibrinous lead.

Starr has taken out another patent (268,308) later than Faure's, which differs from it in this respect: the active material applied to the plate is mixed with fiber or filaments, in contradistinction to pulverized coke or sawdust, whereby the porous mass is held more securely. Each plate electrode is provided with plates extending through it, for escape of surplus gas, and is separated from the others by a porous partition. At the top of the case containing the whole is an automatic valve, worked by an electro-magnet, for surplus gas to escape, and regulated by the current.

Eaton, also, has very recently patented (268,360) an element somewhat resembling that of Houston and Thompson. His combination is of an electro-negative element of spongy lead, a solution of cupric sulphate, and a positive element of carbon, or carbon and metal, in a finely divided state and loose.

After this consideration of the construction and working details of secondary batteries, the very important question arises, as to what their capabilities are. The statement has already been made, that there was a certain loss. What is the amount of this loss?

MM. Tresca, Allard, Le Blanc, Jubert and Pottier, made a report to the French Academy, whose main points may be thus summarized: (*Parville*, "*L'Electricité et ses Applications*."') A battery of 35 secondary cells, weighing each 43 kilos., in all about one and a half long tons, was charged by a Siemens dynamo of one and one-half horse power for nearly 23 hours; or equal to

one horse power for 35 hours. Of this power, 34 per cent. was sheer waste in overcoming friction and in useless work, while 66 per cent. was sent into the battery. Of the full amount sent into the battery, 60 per cent. was recovered in the form of electricity. In other words, of 35 hours' work into a ton and a half of storage battery, 14 hours' work could be made actually available; or enough, as Morton puts it, to run twelve of Edison's eight-candle lamps for fourteen hours. Or, to put it in yet another shape, there were 35 cells, and 35 hours of one horse power expended, that is, a horse power for each cell. Each cell received 270,000 kilogrammeters of energy, of which it yielded in return 40 per cent., or 108,000. Each kilogram of lead thus gave up 2,500 kilogrammeters of actual force.

But since this investigation, much better results have been achieved. M. Planté has measured the amount of working force returned from some of his best formed elements, and found it to be 88 to 89 per cent. Hospitallier also has had better results. Gladstone and Tribe have carefully studied the causes of loss, which they find to be local action between the lead plate and the peroxide deposited on it—already alluded to—and the resistance of the lead compounds to the passage of the current, by which energy is correlated into other than the desired form. By properly adapting the constituents and regulating the discharge, and by "resting" the battery, Ayrton and Perry have recovered 82 per cent. of power put into these cells.

These latter results are far better than those yielded by the experiments of the French committee, and are an indication of the amount of energy we may legitimately expect these secondary batteries to yield back. I have no doubt that the battery of the near future will steadily yield 80 per cent. of energy sent into it.

General interest in the subject may justify me in concluding with an exceedingly brief resumé of a very few of the recent United States patents, covering applications of secondary batteries, which seem to deserve notice on account of their ingenuity or serviceability.

T. A. Edison (Pat. 218,167), makes the statement that when a secondary battery is fully charged decomposition of the

liquid commences, and gases are developed. He arranges two secondary elements so that one may be charged by a dynamo, while the other is doing the active work of, say, lighting a series of lamps. When the first one is completely charged, and the decomposition of gas has begun, the gas given off operates an automatic switch, and shunts the charging current on to the battery which is nearly exhausted, while the one which is completely charged is by the same movement switched into the discharging circuit. His claims cover the use of the gases thus given off, and for this purpose, and the whole general arrangement, as above.

W. L. Voelkler has patented (251,748) a device for preventing waste of energy in a circuit of, say, electric lights. He introduces a series of secondary batteries so automatically connected that all energy given off by the dynamo above a certain and necessary amount is stored up in them; whereas, if for any reason the energy of the generator falls below the required amount, the force stored up in these cells is at once brought into play, and thus the current is kept constant. This is accomplished by means of a strip of metal running over an insulated pulley and loaded with a weight, which plunges into a reservoir of mercury. The metal strip and mercury are part of the main circuit. Excess of energy heats the strip and elongates it, allowing the weight to descend and displace the quicksilver, which rises in another tube, and makes contacts which switch off part of the current into the secondary batteries. On the other hand, if the metal strip becomes too cool, it, by a reverse action, throws the secondary batteries into the main circuit.

H. B. Sheridan has another device (253,435) for a similar purpose, but particularly intended for lighting railway cars. The dynamo is connected with the running-gear. He inserts an automatic switch, whereby the main circuit is broken when the charging current becomes weak, or stops, in order to prevent the current passing back from the storage cells to the generator. Instead of a strip of metal, as in the previous system, he has a series of lever switches actuated by cores, drawn into magnet helices, as the strength of the current varies.

C. E. Buell patents (255,248) a mode of preventing waste of

the charge of a secondary battery, when the generator, which charges it, is either at rest or in slow action. Were this not prevented, the energy accumulated in the storage box might return to the generator and be virtually lost. He has a developing and a charging circuit. When the dynamo is first started up, electrical power is quickly developed, and when sufficient speed is attained the current is turned off, either automatically or by hand, and on to the charging circuit.

Buell also patents a scheme something like this (255,249): A charging circuit, two series of secondary batteries, a working circuit common to both, a switching device for alternately connecting one series in the charging circuit, the other in the working circuit, and an arrangement by which the series being charged, are *coupled for quantity*, the series being discharged for *intensity*.

In still another patent (259,362), Buell makes this combination quite effective for lighting cars, each car being provided with switching devices, and two series of secondary batteries, those being charged being coupled for quantity, and those working the lights, for intensity. Moreover, the storage boxes may be thrown entirely out of the circuit, and the charging current made to do the work of lighting.

In conclusion, then, secondary batteries are not universally applicable, but within certain limits their value will prove—in the near future—very great. As regulators and equalizers of powerful currents, in numerous domestic and professional applications, and as a means of economizing in the first cost of large plants they are without a visible rival. For instance, a one-horse power dynamo, intended to run for twelve hours, in storing up a charge, is much less expensive than a twelve-horse power machine, intended only to run an hour, while, in many cases, running the former will be found little or no more expense than the latter. In Paris, if the writer remembers aright, and in other cities, a company will charge up small accumulators for an evening's lighting, calling for them next day, and leaving freshly charged ones, and for a very small sum.

The patents which I have summarized in this paper will serve to give an idea of the number of services to which secondary

batteries may be put. We must remember that, as applied for commercial purposes, this matter is still in its infancy, and that great improvements and additions may be expected in its scientific front. The little instrument with which I show you a few results to-night is as a scientific plaything, when compared with the immense surface of lead offered in some of the polarization batteries now in actual use for electric motors and lights.

In all that I have said to-night, I feel that I have not been able to do justice to the industrious talent of Planté and others (to whom all honor), nor to throw that electric light upon the subject which it deserves; but I venture to hope that I have shown that it is one which has, literally, a most brilliant future.

1558 WABASH AVE.

ARTICLE IV.

A CASE OF POLYDIPSIA, COMPLICATED WITH CHRONIC SPASMODIC ACTION OF THE STOMACH. By D. D. MARR, M.D., Chesterton, Ind.

Mrs. W., farmer's wife, aged forty years, mother of several children, complexion light, disposition rather hysterical—has been an invalid for ten years, the last three passing most of the time in bed. Weight, 115 pounds; very nervous, and has the general appearance of continued suffering.

She was quite intelligent, and informed me that she had been affected with the diseases for which she had called me to treat for three years, with but slight remissions.

During this time she had had several medical attendants to examine and treat her, no two of them agreeing as to their diagnosis, and none of them affording any relief. The last was a respectable practitioner of fifty years, who, after several visits, informed her that he was yet ignorant of her diseases, and discontinued his treatment.

On examination, I found her pulse 115, small and thready; appetite very limited, bowels constipated, tongue not much coated, but dry and fissured; great thirst, drank from one to two

gallons of water per day, and passed urine in large quantities; sp. gr. 1,008, which, on several examinations, contained no sugar.

I was not a little surprised to hear gurgling, plashing and whirring sounds of confined liquid issuing from the region of her stomach, and with such violent action as to jerk and agitate her whole body, which she was unable to restrain.

On uncovering her abdomen, nothing unusual as to contour was noticed, excepting a slight fullness over the gastric region. Within the abdominal wall, and in the region of the stomach, and, in fact, the stomach itself, were all manner of writhings, twistings, and contractions in connection with the liquid sounds I have described.

Thinking that I could restrain the movements, I applied my hands firmly in various positions over the stomach, but with only partial success. I could very distinctly feel the contortions of the stomach and movements of the liquids therein.

She would frequently drink a half-pint of water, and immediately the movements and liquid sounds I have described would increase vigorously, and with great discomfort to the patient.

One homœopathic physician had diagnosed three or four snakes in her stomach, and prescribed fasting, so that the reptiles would hunger and crawl out.

Diagnosing her disease according to the heading of this article, I administered treatment as the indications required. Her hygienic and dietetic conditions were put in as favorable condition as her humble circumstances would permit, and tonics were freely given. Opium and its preparations were given even to a degree of narcotism, relieving the pain, but not the spasmodic action of the stomach. Anti-spasmodics had no appreciable benefit. Bismuth sub. nit., in drachm doses, three or four times daily was the only remedy that gave any relief, partially controlling the spasmodic action and allowing more ingestion of food. With a view of giving quietness and rest to the stomach, rectal alimentation was resorted to, but with no material benefit, as the constant desire for liquids could not be supplied per rectum.

She passed out of my observation for three or four months, when she again sent for me. She informed me that she had

improved considerably, and that she could take nourishment and digest it with more comfort and less spasmodic action of the stomach, but that the disease was "moving downward."

On examination, I found the lower region of the abdomen enlarged, and she stated that there was movement connected with the enlargement. On examination, I found this due to pregnancy, which, in due time, terminated favorably. After the termination of gestation her condition improved, the spasmodic action of the stomach was but slight, and the quantity of fluids ingested was greatly lessened.

I have searched the medical literature in my possession, but have failed to find a reported case of chronic spasmodic action of the stomach.

May not the falsely reported cases of movements of snakes, lizards, and other reptiles in the stomach be due to a chronic spasmodic action of this organ, as in this instance. If so, we can easily explain away such reports. In this case, the continual drinking of large quantities of liquids was undoubtedly a great factor in the spasmodic action of the organ.

THE Hungarian medical journal, *Gyogyaszat*, publishes an interesting but not very æsthetical extract from an old materia medica for the year 1564. This materia medica appeared under the title: *Connumeratio portarum cottus Saladiensis anni 1564, Summa facit portas turcis non subjectas No. 89½. Turcis vero subjectas No. 364½*. Among the prescriptions are the following: Against toothache, powder the tooth of a hanged man, mix it with lard, and rub the aching tooth; it will fall out immediately. Against jaundice: Wash your posteriors very cleanly, and give the patient the water to drink before breakfast. Against stone in the bladder: Give the patient seven living lice in honey at the time of the declining moon. The whole extract shows the ignorance of the public and the learned in those times, but there are now prescriptions used which will be ridiculed a hundred years after us.

Society Reports.

ARTICLE V.

MICHIGAN STATE BOARD OF HEALTH.

(Reported for the CHICAGO MEDICAL JOURNAL AND EXAMINER.)

The regular quarterly meeting of the Michigan State Board of Health was held at its office in Lansing, Michigan, on Tuesday, January 9, 1883, the following members being present: Hon. LeRoy Parker, of Flint, President; Henry F. Lyster, M.D., of Detroit; Rev. D. C. Jacokes, of Pontiac; J. H. Kellogg, M.D., of Battle Creek; Arthur Hazlewood, M.D., of Grand Rapids; John Avery, M.D., of Greenville, and Henry B. Baker, M.D., Secretary.

The subject of oil-inspection was brought up, and it was stated that it was alleged that much oil is being sold without being inspected, partly because of there not being enough inspectors, and partly because of the system of payment for inspection, which allows a man to receive large pay for his labor performed during the first of the month, and toward the last of the month, when the fees get smaller, the work is not done. The object to be attained by the inspection should be to ensure that the oil used by the remote farmer in his cottage, should be as safe to use as that in the city, near the inspector; and it was represented to the Board that the cost of inspection could be reduced from \$27,000 to \$12,000, and yet have all the oil properly inspected, but not without employing more inspectors than are now employed. Dr. Hazlewood and Dr. Baker were appointed a committee to take such action as was considered necessary on the subject of the inspection of oils.

The secretary made his report of work during the last quarter, mentioning the efforts to prevent the introduction of contagious

diseases by immigrants; the distribution of blanks and circulars to officers of local boards of health, providing for their annual reports; the general distribution of the Annual Report of the Board for 1881; the issuing of a circular by Drs. Kellogg and Avery, with a view to collecting all facts respecting the cause and spread of diphtheria; the preparations for a sanitary convention at Pontiac, commencing January 31; the preparation of articles embracing facts collected respecting contagious diseases in Michigan; also one giving what has been learned by the immigrant-inspection service; also a paper read before a convention at Jackson, on "The Relations of the State Board of Health to Corrections and Charities." A resumé of the work of other State Boards of Health was also presented. It showed that in three counties in California, small-pox had been introduced by immigrant cars. The authorities provided an inspection, and have for the present stopped the introduction of this loathsome disease. In Michigan, the expense of small-pox inspection is much greater, on account of the large number of immigrants, and the secretary claimed that the national government should continue to provide means for such inspection, and thus protect the people from Maine to California. Senator Conger and Representative Rich have introduced in Congress bills to appropriate \$25,000 to enable the National Board of Health to aid State and local boards of health to prevent the introduction of contagious diseases, and their spread from one State into another, by means of the immigrant-inspection service. After reading the above-mentioned bill, the following resolution was passed:

WHEREAS, This Board has long been laboring for the restriction and prevention of contagious diseases in Michigan, which depends greatly upon the existence of such diseases in other States and countries; and as this Board has been able to trace several outbreaks of disease in this State during the past year to immigrant travel, etc., therefore

Resolved, That this Board of Health urgently requests our members of Congress to endeavor to secure the passage of a bill to appropriate \$25,000 for the remainder of this fiscal year, and thereafter at about the same rate, to enable the National Board of Health to coöperate with State and local boards of health and quarantines in efforts to prevent the introduction of contagious diseases into the United States, and their spread from one State to another.

The invitation to hold a sanitary convention at Reed City some time in the spring was accepted.

Analyses of apple-butter, and of the tinned-copper, such as is used to make wash-boilers, were presented. The apple-butter is often made in such "copper" boilers when they are new. The acid of the fruit attacks the tin, which often contains lead in dangerous quantities, and it is said that the tin lining is eaten off in one or two times using for making apple-butter. The analysis of the apple-butter showed distinct traces of lead and tin, and a faint trace of copper. That portion of the apple-butter in contact with the cap of the fruit jar in which the apple-butter was sent to the chemist gave very strong reactions for zinc, doubtless derived from the zinc caps which screw down upon the mouths of "Mason" fruit jars. The specimen of tinned-sheet copper used in making "copper" boilers, and other kitchen utensils, was analyzed, and the "tin" was found to contain a large quantity of metallic lead; about two-fifths of the "tin" was lead. From one square foot of such tinned surface there was obtained the equivalent of 150 grains of metallic lead. The ordinary clothes-boiler, such as used in our kitchens, if made of this "tinned-copper," would have two and one third ounces of metallic lead on its surface, an amount that must have a serious influence on persons who eat acid fruits and juices boiled in such a vessel. Dr. Hazlewood and Dr. Baker were requested to make an investigation into the subject of metallic poisoning by utensils for cooking and storing food. The city of Hillsdale, Michigan, now requires burial permits. While this subject was under discussion, Hon. Geo. Howell, M.D., a member of the Committee on Public Health, of the Present House of Representatives, read a proposed bill to promote the public health. He received the thanks of the Board. The subject of requiring burial permits and thus securing mortuary statistics before removal of the body of deceased persons, was referred to the Committee on Legislation, with the request to prepare a bill and submit it to the Legislature. The Board adopted a resolution commending the effort to secure mortuary statistics before the burial or removal of the body of a deceased person; and declaring that the method is applicable to townships and villages as well as to cities.

Many letters from prominent sanitarians in this and other countries were presented which spoke in a very appreciative manner of the work of this Board.

It was moved and carried that local boards of health be recommended to supply physicians and persons acting as such, with blank notices of diseases dangerous to the public health printed on postal cards.

The Committee on Legislation reported on an act requiring the registration of plumbers. Hon. James Heuston, M.D., Senator, spoke on the subject of the examination of new dwellings before occupancy, and the following resolution was offered by Dr. Baker and adopted:

Resolved, That the Committee on Legislation, etc., and the Committee on Buildings, Public, Private, etc., jointly, be requested to take into consideration the feasibility of the suggestion made at this meeting by Hon. James Heuston, M.D., for a State law requiring all plans for new dwellings to be submitted to the local Board of Health for approval.

The Committee on Disposal of Excreta was requested to prepare a pamphlet for general distribution, on the disposal of slop-water, garbage, etc., in villages without a sewerage system, and from detached dwellings.

The American Public Health Association has recommended making it a penal offense to communicate a contagious disease. The Committee on Legislation was requested to modify the bill so as to name diphtheria, scarlet fever, and small-pox, and get the subject before the Legislature.

The Special Committee on Sanitary Conventions reported that a Sanitary convention was to be held at Pontiac on January 31 and February 1, 1883. Among the subjects to be presented, are papers on the Limitation and Prevention of Typhoid Fever, the Relation of the Medical Profession to Public Health Laws, on Toy Pistols, the Dangers in Dirt, and on the Contamination of Well Water.

The following resolutions (two of them having been passed before) were reaffirmed:

Resolved, That there should be required of all who are to begin the practice of medicine in this State an examination as to their qualifications.

Resolved, That such examinations by the State should be restricted to questions in demonstrable knowledge as distinguished from questions of mere opinion.

Resolved, That, as a public health measure these two resolutions be referred to the President and Secretary, with a request to do what they can to further the objects of the resolutions.

Auditing of bills and other routine business was performed. The next meeting of the Board will be at Pontiac, January 31, and the next regular meeting will be April 10, 1883.

DR. THOMAS WATSON died December 12, 1882. He was in his ninety-second year. He is perhaps best known for his classical work on the Practice of Medicine. It is not too much to say that no other work of similar extent upon this subject has ever so charmed every reader. On Friday, the 15th instant, the remains were conveyed in a plain coffin of polished oak, without other covering than a floral cross, from the residence of his son to the burial-ground attached to the Reigate parish church. At the entrance of the churchyard the procession was met by the clergy and a surpliced choir, who chanted the opening sentences of the service. The greater part of the service, including the singing of the two well known hymns, "Lead Kindly Light," and "Ten Thousand Times Ten Thousand," was performed within the church. There was afterward a procession to the grave, the bare earth of which had been concealed from view by a lining of evergreens and flowers. Among those forming the procession were the son and heir of the deceased, Sir Arthur Watson, Lady Watson, Miss Watson, the two sons and two daughters of Sir Arthur and Lady Watson, and Captain Watson, a nephew of Sir Thomas. The medical attendants of the deceased were all present—namely, Dr. Walters, Dr. George Johnson, Mr. Lister, Dr. Greenhow, and Dr. Holman. The College of Surgeons was represented by the President, Mr. Spencer Wells, and the College of Physicians by the Registrar, Dr. Pitman. Sir William Jenner wrote to express his regret that he was unavoidably prevented from attending.

Domestic Correspondence.

ARTICLE VI.

ELGIN, JAN. 30, 1883.

S. M., age about fifty-five years, while spading in his garden in this place, the ground being dry and hard, ruptured himself very severely. This occurred on the 20th of last May. It appears that it was an old hernia, right inguinal, as it had appeared once before, but not so bad, and he had been wearing a sort of home-made truss. The method adopted, as I was informed, to reduce it before, had been to stand the patient on his head, or nearly so, holding him in that position by two men, while the surgeon of St. C. manipulated to reduce the hernia. This method of procedure doubtless impressed those present as being a very scientific way of doing it. The method adopted by me was to have the hips of the patient well elevated in the bed; I administered to him a brandy toddy, applied an ice-bag over the extent of the tumor, leaving this on forty minutes; by this time all pain had disappeared. I then, with both hands extended over the tumor, commenced a firm and steady pressure in the direction of the inguinal ring, reducing the hernia in about thirty minutes. This hernia was immense, extending down between his thighs, obliterating penis and scrotum, or involving them in the swelling so as to leave no natural appearance. Dr. B., homœopathist, was present with me, being a brother-in-law of the patient.

H. ROSENCRANS, M.D.

Reviews and Book Notices.

ARTICLE VII.—MICROSCOPICAL MORPHOLOGY OF THE ANIMAL BODY IN HEALTH AND DISEASE. By C. HEITZMANN, M.D. Late Lecturer on Morbid Anatomy, at the University in Vienna. With 380 Original Engravings. 8vo., cloth, pp. 849. New York: J. H. Vail & Co. 1883.

This is a great work whose merits cannot be ascertained by a mere perusal, and yet one could not extol it as a valuable *text-book*. To a great many it will remain but a stupendous contribution to the science of histology, which is in its infancy though a robust child. A large part of the book was written ten years ago, and consists of a translation of previous papers by the author, too much of it being mere discussion. The effort of Dr. Heitzmann at demolishing the cell doctrine is like that of the socialist to do away with the government. In both cases the narrow mind of man fails to see the compatibility of a foundation with a superstructure.

The cell theory is one of the greatest modern scientific achievements, a resting platform in the stairs of knowledge, and the merit of Dr. Heitzmann's researches is this, that he has shown that the *cells* have a regular ground-work which former investigation had not seen. Another advantage of the book, most of the illustrations are original, as they should be in such cases, though a great many are diagrammatic, which is hardly excusable in works on microscopy.

In the preface, the author refers to the support he received from a wealthy friend. This is a detriment, for we live in an age when practical scientific books are in such demand as to pay for the publication; except, perhaps, when a writer tries to make

a text-book of an aggregation of previous pamphlets. The 12 pages devoted to methods are very practical, and one wishes that a longer space had been given to the subject. The chapter on the General Properties of Living Matter, is extremely crude compared with the treatment of the same subject by Hadley, in his "Anatomy of the Invertebrate Animals," or Spencer, in his "Biology." The net-work of which cells ultimately consist is described in chapter iii. as observed by the author in examining amœbæ with a 1000 power. It is well to state here that other observers have failed to discover such structure, but in this as in other cases analogy suggested the discovery and it was not made through the help of the best lenses, though it is doubtless a most important one.

The substitution of tissue *elements* for *cells* is only misleading, and the old term should be preserved for many obvious reasons.

The communication on "The Structure and Origin of Colored Blood-Corpuseles," by Louis Elsberg, forms one of the most valuable and interesting chapters. Dr. Heitzmann's work is well adapted for those students who are particularly fond of investigations rather than memorizers of known facts, and several views of the author will certainly stimulate microscopists to more accurate observations. Besides, a careful elimination of a good deal of useless material, would make a valuable text-book of what seems incongruous matters in this first edition. The printing as well as the engraving leave no desideratum.

ARTICLE VIII.—A MANUAL OF OBSTETRICS. By A. F. A. KING, M.D., Professor of Obstetrics and Diseases of Women and Children in the Medical Department of the Columbian University, Washington, D. C., and in the University of Vermont, etc., etc. With 58 Illustrations. 12mo, cloth, pp. 325. Philadelphia: Henry C. Lea's Son & Co. 1882.

Of all the manuals issued of late in the various departments of medicine, none compare with this. It is the clearest, neatest, most complete and most interesting work on the subject of which it treats, and it seems that Prof. King has succeeded in conveying in its chapters the wonderful interest which attached to his lectures when delivered before his attentive students.

Although the author has often published valuable contributions to the science of obstetrics, his greatest glory is the magic affection with which all his students remember him, and his aim in dedicating his book to them has been to make a book which answered their wants in every particular, and in that he has entirely succeeded.

This volume is much more thorough than a first glance would reveal, for it comprises even obstetric jurisprudence, while, by a system of condensation peculiar to Prof. King, one wonders at the number of facts expressed in a paragraph, and at the numerous details of treatment conveyed in half a page. The illustrations are remarkable for their accuracy, and this volume is issued in the best style of the well-known publishers.

Although best intended for students, this book is also very useful in the library as a reference work, for it contains all the essentials of the larger works on the subject, besides many original suggestions. And the treatment is everywhere exhaustive. This volume also possesses the rare merit of slipping inside an overcoat pocket, so that it can easily be taken along to the bedside, where accoucheurs sometimes have to pass such weary hours if they have no reading matter at hand.

H. D. V.

ARTICLE IX.—THE PHARMACOPEIA OF THE UNITED STATES OF AMERICA. Sixth Decennial Revision. By authority of the National Convention for Revising the Pharmacopœia, held at Washington, A. D. 1880. 8vo, pp. 488. New York: William Wood & Co. 1882.

On the whole, this edition will be very satisfactory to the greatest number of readers. The introduction of abstracts of various drugs forms a convenient mode of administering them. So the triturations with sugar of milk.

The preparations of opium in this new edition are stronger than in the former, and will be a source of misunderstandings between prescribers and druggists until both become accustomed to the change. Most of the ingredients of compounds are taken as so many parts in a hundred; in some both the metric and the old systems are used. A great many fl. extr. syrups and trs.

have been added, but comparatively few new remedies. Every drug appears in alphabetical order, with a prominent name, and a great deal of blanks. In fact, it is probable that the high price of the book, in which these blank spaces occupy such prominence, will prevent its general use by prescribing physicians. This book could have been issued in a more economical manner. However, an objection of a totally different character will be made by many to the small type used in describing many substances. More plain type and less *leading* would have made a prettier and more useful volume.

As it is, nevertheless, it forms the best reference book in prescription writing. It is indispensable to druggists, and it is the materia medica recognized by the law so that it is indispensable to most physicians.

It is issued in a variety of styles, to answer the wants of druggists especially.

H. D. V.

ARTICLE X. — ANATOMICAL TECHNOLOGY AS APPLIED TO THE DOMESTIC CAT. An Introduction to Human, Veterinary, and Comparative Anatomy. By Burt G. Wilder, B.S., M.D., and Simon H. Gage, B.S. (Both of Cornell University). 8vo., cloth, pp. 575. New York and Chicago: A. S. Barnes & Co., 1882.

A timely and most valuable work on anatomy. This is certainly the most practical book on the subject, and it will prove of the greatest benefit to those who pursue their study alone, or dissect without the help of a demonstrator. The large number of Latin anatomical terms used, while easily acquired by a short study of the language, impart to the subject a sort of international homogeneity which cannot be too highly commended. Although the greatest attention is given to the anatomy of the cat, this manual is the best work available on the dissection of any mammal, and must form the best of introductions to human anatomy. However, as medical students have but little time to give to dissection while pursuing the study of medicine, and as the anatomy of man is the only one that they can ever master, they should not make the mistake of entering the profession with

nothing but a smattering of the anatomy of the cat, and, therefore, we would not recommend the introduction of this work in the medical colleges of this country. But, for those physicians who dissect whenever an opportunity offers, who are interested in comparative anatomy, or practice vivisection, this is the best hand-book. With naturalists at large, a rapidly growing class in this age, a want long felt has just been filled, and it is probable that it could never have been filled in a better manner, except, perhaps, for the wood-cuts.

ARTICLE XI. — PATHOLOGICAL ANATOMY. Pathology and Physical Diagnosis. A Series of Clinical Reports, Comprising the Principal Diseases of the Human Body, Systematically Arranged in One Hundred Full page Illustrations and One Hundred Pages Text. By I. A. JEANCON, M.D. Progress Publishing Company, Cincinnati. Twenty-five Parts. Price \$1.00 per Part.

We have before us, Section One of this promising publication. It treats of diseases of the cerebro-spinal axis and its membranes, beginning with sub-arachnoidal meningitis of the cortex and surface of the brain (comatose form).

Table One illustrates beautifully, by eight chromo-lithographic figures, three well reported cases of cerebral arachnitis.

Table Two illustrates, in an equally artistic manner, by four figures, the post-mortem appearance of a case of hemiplegia, with excessive pain in the limbs and epileptiform spasms; two cancerous tumors of the dura mater; gelatiniform softening of the cerebral substance.

Table Three illustrates, by six admirable figures, tumors of the falx cerebri, and the accompanying text gives the histories of two cases from which the specimens were obtained.

Table Four contains four figures, that represent, in an equally creditable manner, acute meningitis of the cerebrum and cerebellum, and the text gives complete histories of two cases from which the illustrations were obtained.

We can emphatically commend this work to the profession.

D. R. B.

ARTICLE XII.—ESSENTIALS OF VACCINATION ; A Compilation of Facts Relating to Vaccine Inoculation and its Influence in the Prevention of Small-pox. By W. A. Hardaway, M.D., Formerly one of the Vaccine Physicians to the City of St. Louis, etc. 12mo., cloth, pp. 146, \$1.00. Chicago: Jansen, McClurg & Co., 1882.

Of the various valuable contributions made to the subject during a few years this seems the best and most practical. It comprises chapters on the history of vaccination, vaccina in animals and in man, complications, etc., revaccination, merits of different kinds of virus, etc. It is terse and thorough, not encumbered by technicalities, and it is issued in very good style. While of great value to the profession, this monograph is also very well adapted for the people at large, especially in these days of anti-vaccination crazes.

COOK COUNTY HOSPITAL.—Dr. Jas. M. Hutchinson is giving an excellent surgical clinic every Tuesday at the hospital. His dissertations show that he has within him the elements of a successful clinician.

Dr. F. Henrotin is giving an acceptable medical clinic every Tuesday.

Dr. A. J. Baxter is conducting a surgical clinic every Friday. There is no medical clinic on Friday.

It is a matter of great regret that so many of the present medical staff of the hospital have no capacity for and no experience in medical teaching, and that, in consequence, the abundant material is not used as it should be to encourage the progress of medical education in Chicago. Chicago is the great medical center, as it is the great commercial center, of the Northwest, and the county commissioners should see to it that competent teachers, as well as capable practitioners, constitute the Hospital staff.

Translations from Foreign Exchanges.

BY O. STROINSKI, M.D.

A CASE OF SYPHILITIC GUMMA IN THE LIVER.

Marie G., fifteen years of age, is very imperfectly developed, and she has suffered for years from scrofula the consequences thereof having been grave lesions in the pharynx and palate with difficult voice, and partial loss of vision by repeated kerato-conjunctivitis. At last she lived in very poor circumstances. A few months ago, she lost some blood through the vagina, and this was thought to be menstruation. She suffered then from severe pains in the back and abdomen, and she noticed a swelling of the latter which increased rapidly, and she was thought to be pregnant. A physician examined her, and declared her to be seven months pregnant, and he sent her to the women's hospital. On examination, the cervix was found normal and very small, hymen intact, pregnancy excluded. The abdomen was very much distended the subcutaneous veins visibly enlarged, and there was palpable in the abdominal cavity a great amount of fluid (ascitic). The liver was enlarged to such a degree that the lower part could be palpated in the region of the umbilicus. The appetite was diminished, there were colicky pains in the abdomen, and she always suffered from diarrhœa. There was no fever or icterus. The patient was put on a diet of milk, and she seemingly improved, but soon all the symptoms returned with repeated vomiting. An aspiration of three liters of the fluid was made, and it was found to be highly albuminous. After repeated aspirations the patient died. The following autopsy showed the organs of the thorax to be in a healthy state, the

peritoneum highly inflamed, the uterus and ovaries very small. The very enlarged liver shows an atrophy of its right lobe which is situated in the vertebral cavity, but the left lobe is hypertrophied and forms the greatest part of the organ. The surface shows a general perihepatitis with adhesions to the neighboring parts. The gall-bladder is atrophied and reduced to the size of a small prune, its cavity being inflamed and containing but a little yellowish mucus; the great biliary ducts are permeable. The sections of the liver show the tissue to be firm and consistent and its aspect resembles that of a cardiac liver, the most remote lobules from the center being yellow and fatty, those of the superficial layer red and highly injected. The capsule of Glisson is very small. On the end of the left lobe, the tissue resembles that of the spleen, and the central fatty spots have irregular and ramified folds. In cutting through the small branches of the left liver, there is found on the posterior margin of the liver on the point where the subhepatic veins unite with the vena cava, a small tumor of fatty and translucent tissue resembling caseous substance. The tumor is a true gumma of the liver, and its cicatrix has enveloped in its retraction the two subhepatic veins; it has caused their absolute obliteration, the vena cava presenting a depression without any permeable orifice. This singular lesion explains the alteration of the liver, and it resembles most vividly the cardiac stasis, the cicatricial retraction having caused a veritable ligature of the two principal subhepatic veins. The other organs, and especially those of the genital apparatus, being in contradiction with symptoms of recent syphilitic infection, it is probable that the infection has been caused by vaccination, or that it is a case of hereditary syphilis.—*France Médicale.*

SALIVARY FISTULA OF THE CANAL OF STENO WITH A NEW SURGICAL PROCEDURE.

If there is made, from whatever cause, a fistula into the integument of the canal of Steno, there will always be a permanent salivary fistula, with not the slightest tendency to reparation, and only an operation will close the fistula. The number of opera-

tions for closing the fistula is very large. Dr. Richelat has invented a new procedure which is very simple and which can be applied in all cases. The following cases will show the results of this new operation. A woman, forty-two years of age, had been shot in the right side of the face, twenty-five years ago. There is now an anchylosis of the temporo-maxillary articulation, the teeth cannot be opened more than one millimeter, the food can be introduced but in small particles, and mastication is impossible. There is also a salivary fistula on the most remote parts of the duct, and of the external surface, of the left masseter. This fistula has undergone several changes. There has been formed an abscess opposite to the fistula which broke into the original fistula and there remained a permanent aperture as a new fistula. A scar of the original fistula is now visible, one opening 3 cm. below that from an abscess can be seen, and another opening forwards on the buccinator from which the saliva flows constantly. Considering the anterior orifice of the abscess as the true fistula, the following steps of operations were made: A trocar was plunged into the fistula and an exit was made on the buccal mucous membrane on the point where the canal of Steno regularly runs. A canula was then introduced, so that the end of the canula occupied the anterior margin of the new canal and not entering the fistula which was closed by sutures. Thus the saliva took its regular course into the buccal cavity and the posterior aperture healed of itself. In two months' time the cure was perfected.—*L' Union Médical*.

POTT'S DISEASE, PARAPLEGIA, RAPID SPINAL EPILEPSY.

The patient, a young man twenty-three years of age, noticed first rheumatic pains with a slight fever. Three days afterwards his limbs became paralyzed, and he says that he does not know of any cause of the disease, but that he had to walk a good deal. He had no pains, neither in the chest, back or limbs, but then he noticed that he could not stay on his legs. On entering the hospital the legs are found to be bent on the trunk and the flexor muscles are contracted, so that it is impossible to straighten the legs, except with great force and under severe pains. Micturition is painful and there is constipation. The patient can but

slowly move his body on the bed. The movement is specially difficult on the left side and there is apparently spinal epilepsy. There is trouble in sensation, with pains in the limbs and formication. He complains also about pains around the waist, and there are points of complete anæsthesia, especially on the upper part of the limbs. He mistakes the sensations of heat, cold, contact etc. There is a vertebral curvature reaching to the fifth dorsal vertebra, but which the patient has never noticed. He died, after a few days, from complete asphyxia. The autopsy shows intramuscular abscess, near the fifth dorsal vertebra. The body of the latter is entirely destroyed and in its place is a caseous mass which has entered the dura mater. The spinal marrow consist of a blackish substance which is rigid and resistant. This mass is also found in the pia mater of the brain and in the cerebral hemispheres, reaching to the interhemispheric fissure. There had been, doubtless, a pressure on the spinal marrow.—*Progrès Médical*.

A CASE OF SYPHILITIC KERATITIS.

The patient, thirty-four years of age, a very muscular and healthy looking man, has been attacked by syphilis with hard chancre, in the year 1870. The present disease dates four months back. The eye became reddened and there were symptoms of photophobia. Varying pains set in with aggravated disturbance of vision. The palpebral conjunctiva is inflamed, the eyeball is injected especially in the pericranial region. The vessels are enlarged and there are seen vessels invading the cornea. This membrane is opaque and the limits of this opacity are diffuse. The iris of the healthy eye is blue, but that of the left side so far as visible is yellow. The pupil is small and there are probably posterior synechiæ. The diagnosis is syphilitic parenchymatous-irido-keratitis. The patient complained often of headache with gastric symptoms and he collapses after two weeks. In the brain there are found in the left hemisphere two gummata. The diseased eye is put in Mueller's solution for two months. The cornea shows a blackish thickening originating from the anterior chamber, and there are folds running from the periphery to the center. The iris is slightly pigmented and its

two zones, the central and the peripheric, show prismatic eminences. On the total discision including the not detached cornea, are noticed: 1. An enlargement of the episclera; 2. A declination of the angle of the iris on the posterior surface of the cornea; 3. The corneal tissue is swelled by a blackish mass and there is ablation of the vitreous membrane. There are three synechiæ on the anterior capsule connecting it with the pupil.—*Lyon Médical*.

THE VENOMOUS APPARATUS OF THE SCORPION.

The venomous apparatus of the scorpion is formed by the last abdominal segment and it is curved, pyriform and highly colored. It has two small ducts from which the poison is ejected.

To understand the structure of the apparatus it is necessary to make several transverse incisions. The venomous glands are two in number. Each gland is placed in a cavity which it fills entirely, and the anterior part of which is formed by striated muscular fibres, which can be moved voluntarily by the animal, pressing on the gland and thus separating the poison. Each gland consists of a tegument and a central cavity, which serves as a reservoir for the poison. The tegument is composed of two layers: 1, A fine layer consisting of cellular tissue and muscular fibers, it presents on its internal region lamella-like prolongations which serve to augment the secreting surface; 2. A cellular layer which is composed of prismatic epithelium lining the internal part of the first named layer and the folds of the second one. These epithelial cells are filled with protoplasma, and they contain in great abundance, fine arrayed granulations characteristic of the poison of the scorpion, and which are especially visible on applying acetic acid. The poison escaped by the rupture of the cells and it is accumulated in the central cavity. The venom of the scorpion is a very active poison and its effects are characterized by two phenomena: 1. That of excitement; 2. That of paralysis. One drop of the poison injected into the cellular tissue of the rabbit kills the animal in time of a few minutes. The probability is that the poison acts on the brain and spinal cord.—*L'Union Médicale*.

TEMPORARY LOSS OF VISION BY PAPILLITIS IN PREGNANT WOMAN.

The patient, a Mingrelian lady, sixteen years of age, has been married three years, and she is now pregnant the third time. She is a brunette of gracile figure; well nourished, and healthy appearance. Four months ago she complained of headache and nausea. After a while the vision became impaired, and palpitation of the heart troubled her, to such an degree that she could find no rest. There was a sensation of heat from the waist up to the chest; throat and head, and the face became very often intensely reddened, but without sweat. The patient being in the seventh month of pregnancy, danced a great deal and took from three to four bottles of strong wine daily. The day before she became perfectly blind she was at a ball, and danced all night. In the three years of marriage she has been but six months free of the pregnant state, and she suffered all this time from nervous affections (globulus-hystericus, hystero-epileptic attacks, etc.) The conjunctiva is not hyperæmic; the pupils slightly dilated; temperature normal. The ophthalmoscopic examination of the right eye was not possible, on account of pain and reflex symptoms, from the slightest rays of light. The left eye showed the retina in state of hyperæmia and inflammation; the veins grossly enlarged. The treatment consisted of absolute rest in a dark room, abstinence from wine, coffee, etc., and a depletion of blood from the temples. After a few days the headache disappeared, and after a week the patient could read common letters. The patient used spectacles of dark glass and took the usual rides in the carriage. The case has to be classed among the neuroses caused, probably, by the repeated cessation of menstruation in such a young body (or some flexion of the uterus), with irregularities in diet. —*Memorabilien*.

THE ETIOLOGY OF HÆMORRHAGIC VARIOLA.

Last year four Esquimaux died in Paris from hæmorrhagic variola. These patients were young and strong, and not addicted to alcoholism. The autopsy showed the liver enormously enlarged and in complete fatty degeneration; the mesenteric ganglia very developed, the kidneys of extreme volume,

fattily degenerated, and the heart in the same condition. It was then believed that the nutrition of these persons, consisting mostly of oil and fish, had aggravated the symptoms of the variola. It is a fact well known to surgeons that fatty degeneration of one of these organs provokes very often hæmorrhage, and it is further known that variola excites these organs to fatty degeneration like scarlatina, icterus, typhus and other pernicious diseases. Hæmorrhagic variola happens to occur mostly in debilitated persons, drinkers or pregnant women where fatty degeneration of one or more organs is always present. In the autopsy of persons who died from hæmorrhagic variola, the liver is always found to be fattily degenerated and icterus is always present. The kidneys are altered in this disease to a higher degree than in any other disease. The visceral alterations are not of the importance ascribed them hitherto. It seems rather probable that these lesions have been present more or less before the disease attacked the patients, and that they are in some cases the cause of the rapid and malignant course of the disease. Sometimes there had preceded other zymotic diseases.—*Union Médicale*.

TOTAL DEVIATION OF THE STOMACH INTO THE LEFT HYPOCHONDRIAC REGION IN A CASE OF CANCER OF THE PYLORUS.

Marie D., a woman seventy years of age, has always had, as she asserts, an "iron" health, and she has menstruated to sixty years of age. But one year ago she began to suffer from digestive troubles, with diarrhoea and alternating constipation. Three months after she noticed a tumor in the abdomen, and severe pains set in, with entire loss of appetite. The lancinating pains made the administration of morphine necessary. The tumor was situated at the left side of the linea alba, 12 cm. below the false ribs. It was movable, as hard as cartilage, and of the size of an orange. There was no ascites, and there never was vomiting during the entire course of the disease. In the autopsy, the stomach was found to be distended with gas and liquids, and it was considerably deviated. In fact, the great transverse diameter of the stomach is vertical, and the pylorus is situated on the left side, kept there by many adhesions, which fix it to the angle of the transverse colon and the descending

colon. The intestinal ansæ agglomerated about the pylorus were formed by the colon transversum and those of the ileum. All the adherent ansæ were atrophied by encircling peritoneal folds. The pylorus was in cancerous degeneration, the liver fatty, the venæ saphenæ and femoral of the right side were obliterated.—*France Médicale*.

RHEUMATIC OSTEITIS.

M. Ladiat insists that there are different lesions from the same constitutional cause. Thus, rheumatism affects the bones, the ligaments and the synovial cavities. Osseous rheumatism, or rheumatic osteitis, is anatomically characterized by a considerable swelling of the bones forming exostoses and stalactites. The periosteum is also thickened in certain cases. The osseous tissue is friable, and it has all the histological phenomena of a new generation of bone; osteoplastic layers arranged regularly on the surface of the meshes of the calcareous material passing to the state of characteristic osseous elements. The vessels are augmented and dilated, the spongy tissue predominates. In this disease opposite bones forming an articulation will be attacked. The head of the tibia for instance will have an enlargement thus protruding from the condyle of the femur. The soft parts are as to healthy movements limited and accompanied by crackings due to formation of stalactites. Certain diseases which have been hitherto classified as arthrites will have to be classified anew. This rheumatism is developed in healthy muscular persons who have never suffered from any other rheumatic disease, and cardiac troubles have been observed in this form of rheumatism.—*Revue Médicale*.

THE ACTION OF QUININE ON THE HEART.

In typhoid fever, large doses of quinine are applied in every civilized country of the world, and it should therefore appear a necessity to publish everywhere the action (often fatal) of quinine on the heart. Small doses of quinine, given at intervals, produce two different actions on the heart. In the first period, the action of the heart is augmented, its contractions more forcible, and the flow of the arterial blood more violent. In the second period,

there is a marked decrease, *i. e.*, the pulsations are more irregular in rhythm and force, and there is a tendency of arresting the heart. There is an inhibitory phenomenon following over-irritation. In large doses, the first phenomenon does not appear, but all the symptoms of the second stage appear, with stupor and collapsus, and suppression of the contractions of the heart. Thus are explained the reported cases of sudden death in typhoid fever treated with large doses of quinine. Besides that, the sulph. of quinine is very seldom pure, but it is mostly mixed with forty to fifty per cent. of the sulph. of cinchonine, which has a more deleterious effect on the heart than quinine.—*Revue Médicale*.

SARCOMA OF THE TONSILS CURED BY INJECTIONS WITH IODOFORM.

The patient, a man sixty years of age, suffered from sarcoma of the tonsils, with swelling of the glands of the neck. Billroth and others declined to operate, whereupon, Weinlechner of Vienna, ordered the injections with iodoform, which cured the patient entirely. The case is as follows: The patient noticed the swelling of the tonsils in the year 1881. He then went to Billroth, who told him that the case was incurable, and that he would not operate on it. He then went to Albert, who first promised to operate, but later refused. He then saw Weinlechner who found a tumor as large as a lemon and ulcerated in the left tonsillar region, and another tumor deeply situated and as large as an orange, in the angle of the lower jaw. He was inclined to operate with the permission to make a resection of the jaw, but which the patient refused. He then sent him to Dr. Lebaum who cured the patient by sixteen injections with iodoform. The injections caused a chronic gastritis and later a catarrh of the lungs, and they had to be made in great intervals. To-day there are but eight scars in the tonsillar region and on the arctus palato glossus.—*Memorabilien*.

THE SECRETING EPITHELIUM OF THE KIDNEYS IN THE BATRACHII.

The published works on general anatomy and histology have not fully demonstrated the structure of the epithelium of the

kidneys in man. Dr. Bonillot has made investigations on this epithelium in the batrachii. The tubuli uriniferi of this kidney consists of five distinct segments, but from all these structures the second is the most important, and it corresponds with that of the tortuous tube of the uriniferi. This epithelium is composed of polyhedric cells without any cuticulum, but having a broad band on the free surface. These cells contain granular striated matter, and very fine fibrillæ resembling the inter-cellular net, of Klein. The meshes of this net contain a hyaline substance in the interior, and the above-named band is probably due to a condensation of this substance. On some points it is detached in the form of spheric masses, which will be found in the urine. In the normal state there are but a few of these cells, and they are only active cells.—*France Médicale*.

LEUCOPLAKIA BUCCALIS.

This disease, also called psoriasis of the tongue and buccal mucous membrane is a chronic squamous affection of the dorsum of the tongue and the lips, characterized by white elevated spots and superficial induration of the mucous membrane. It is mostly found in persons having been affected by syphilis of the mouth, or in persons addicted to the use of tobacco. But sometimes it is found in persons neither syphilitic nor smokers, and then there are seen round erythematous spots, looking very red, but, later, blackish, and which undergo desquamation. If the disease has continued for several years, there are large, grayish spots, which become black and are thrown off in lamellæ 3 cm. long. Then there is cicatrization with the new formation of epithelial cells, and the surface of the tongue becomes broken and fissured in different directions. At last the tongue shows several elevated points, which look like the papillæ of the tongue of a cat. These points are confluent, and they form at last the true epithelioma.—*L'Union Médicale*.

FISSURE OF THE ANUS AND RECTUM IN A CHILD.

The child, thirteen months old, and very emaciated, suffered from constipation, with slight hæmorrhages from the rectum, and from convulsions on the left side of the body. The child

passed, under severe pains, every eighth or tenth day, a mass of hard fæces, whereupon the child became unconscious. Then a bloody-tinged mucus separated from the rectum, with contractions of the sphincter ani. Three to five days before this event, the child suffered from chorea on the left side of the body. After the passage, these convulsions disappeared, and did not return during the next three or five days. The attacks had begun five months previously. The exploration under chloroform showed a fissure of the anus and rectum seven mm. long and three mm. wide. The fissure was divided and healed by iodoform. The hemichorea never reappeared, and the bowels began to move regularly.—*Wiener Med. Wochenschrift*.

THE METALLIC TUBES OF LEITER AS REGULATORS OF TEMPERATURE.

To regulate the temperature of a certain part of the body our means are very insufficient. A bladder filled with ice, a cataplasma, etc., have been hitherto applied to produce this effect. Leiter, at Vienna, has manufactured flexible tubes of zinc, which can be adapted to any part of the body. A rubber tube is connected with one orifice of the tube so that the latter may be filled with water of any temperature. From the other orifice the water flows out into a basin. The tubes can be applied to the throat, chest, foot, etc. A thermometer is attached to the rubber tube for the regulation of the temperature. A kerosene lamp is used for heating the water in a vessel which is attached at one side to the rubber tube and at the other to a pitcher with water. The temperature can be kept according to the needs in the especial case.—*Progrès Médical*.

THE AUTOPSY OF GAMBETTA.

Much is said about the autopsy of Gambetta, and the curiosity of the people has been satisfied by the report of an autopsy. The brain has been weighed, and a report was made of several parts of this decomposing body, the stench of which was so penetrating as to make Paul Bert faint like an old woman. But the *mise-en-scène* is deficient; there is, in fact, no actual official report of an autopsy. The wound was cicatrized; but where

was the wound? in the arm, or in the abdomen? In the absence of all other explanations, we are inclined to believe that it was in the latter region, *i. e.*, there was a purulent infiltration of the abdominal gland, and a profound abscess behind the colon. We hope that the enlightened physicians who made this autopsy will throw more light upon this point.—*Revue Médicale*.

PURPURA RHEUMATICA.

J. F., thirty-seven years of age, suffered from rheumatic pains in the knee-joints, the arms and the chest. Swelling around the joints appeared, but when this ceased, purpura appeared on the lower limbs. The gums bled easily. Then the joints of the right arm began to swell, and the purpura appeared here. After five days, the joints of the left arm began to swell, and there was immediately an eruption of purpura. The eruption was formed by hæmorrhagic spots, which, when opened, discharged a bloody fluid. Black spots remained for a long time.—*Med. Chir. Centralblatt*.

THE WEIGHT OF THE BRAIN IN MENTAL DISEASES.

Dr. Bra has made a series of investigations on this point in the Asylum of St. Anne. The result, he says, is that in mental diseases the brain weighs a little more than usual, and the circumference of the cranium is also a little larger. But the weight is changing with the intellect which the person possessed. The brain of epileptics does not weigh more than that of a healthy person. In mental diseases, there is always a difference in the weight between that of the right and that of the left lobe.—*France Médicale*.

The *Progrès Médical*, speaking in its student number about the colleges of the different countries, says that most of the colleges in the United States could be closed to the advantage of the people. This is rather rough on us, and we have but one consolation, *i. e.*, that the average French medical college, except that of Paris, gives no better opportunity to the medical student than those of our country. The better colleges of the American College Association can well compare with those of France and Italy.

DR. CLEMENCEAU, the admirable leader of the left wing in the French Assembly, has a good practice in Paris. Sitting one day in his office busily engaged with the registration of the patients whom he had prescribed for, a young man entered the office and the doctor ordered him to take off his coat. The young man took off all his clothes, and the doctor, looking suddenly at the nude figure of the strong and healthy man cried out: "What in heaven's name do you want?" "I would ask you for a position in the post office," the young man replied. Tableau.

THE ACTION OF STRYCHNINE ON DILATATION OF THE HEART.

Patients who had a well stated dilatation of the heart took strychnine daily, and the diameter of the heart was measured daily. The results are as follows: 1. After one or two days, the enlargement decreased so that considerable enlargement disappeared. 2. If the use of strychnine is suddenly stopped, the enlargement will reappear. 3. From two to three mmgrm. sulphite of strychnine daily are sufficient to produce these results. — *Wiener Med. Wochenschrift*.

ELECTRICAL TREATMENT OF EPIGASTRIC PAINS IN HYSTERIA.

These pains, which are mostly accompanied by severe vomiting, have been successfully treated with the galvanic current by Dr. Apostoli. The positive pole is applied in the subclavicular region and the negative pole over the seat of the pain. It is continued for 5 to 15 minutes and it is said to have stopped the vomiting entirely. The gastralgia and epigastric pains have been stopped after ten to fifteen applications.—*Revista Medico-Quirurgica*.

THERE is a revival of the old box-theory in generation which had been nailed up by Haller two hundred years ago. According to this theory Eve had all the coming generations in her two ovaries incorporated as one box is inclosed in the other.

THE Argentine Republic gives liberal "stipendia" to young physicians who have excelled in their examinations, and they are thus enabled to go abroad and finish their studies in Europe.

Selections.

THE EXCITING CAUSE OF ATTACKS OF HYSTERIA AND HYSTERO-EPILEPSY. By GRAILY HEWITT, M. D., London.

Hysteria is a subject which has often and repeatedly attracted the attention of physicians. Hitherto it cannot be said to have been thoroughly elucidated. In attempting to deal with so wide and important a subject, and in offering a contribution towards the settlement of certain vital questions relating to hysteria, I trust I am not guilty of too great a presumption.

In the first place, I desire to present a synopsis of the subject of hysteria, in order that I may be able more clearly to define the position which my observations have induced me to take on the etiology of hysteria.

Synoptical view of the etiology of hysteria and hystero-epilepsy:—

- A. Condition of nervous centers. 1. Unduly impressional.
 - a. Emotionally. b. By reflex action. 2. Actually diseased.
- B. Presence of peripheric irritation. 1. In uterus. 2. In ovary. 3. Elsewhere.

Hysteria may be, according to this synoptical view, either “centric” or “peripheral” in origin. It is also evident that there is no absolute incompatibility in the two views.

It has long been a matter of belief—dating, in fact, from the Hippocratic era—that irritation in the generative organs plays a very important part in the production of hysteria.

Gynæcologists, who have most knowledge of the truth of this idea, have not, however, up to the present time been able to define precisely the *modus operandi* and the exact nature of the irritation in question.

Assuming that the hysterical manifestations, convulsions, etc., seen in women are brought about by the irritations of the sexual organs, the initial difficulty presents itself as to which of the two organs, the ovary or the uterus, is mainly responsible.

So far as hysterical convulsions and hysterical symptoms are concerned, the opinion held by some authors—Negrier and Charcot—is in favor of the view that the ovaries are the *point de départ*.

The observations of Charcot are most interesting, and the phenomena of the hysterical paroxysm have been described by him, and still more recently by Richer,* in a manner which leaves little to be desired so far as the outward manifestations, convulsions, spasms, anæsthesia, paralysis, temporary intellectual disturbances, etc., are concerned. And these delineations are also most complete in regard to the manner in which the manifestations in question are capable of being modified or influenced by the action of *external* agencies. The ebullition, as it may be termed, has, in short, been pictured in a most graphic manner.

Circumstances have led me to investigate the various hysterical manifestations observable, from an etiological point of view. I had no predisposition to take any particular view of the matter, and it was only by repeated observation that I became convinced that the uterus is generally in a state of irritation in cases where these manifestations are observed; thus, in fact, confirming the more ancient theory of the subject. And I was induced to take this view of the influence (etiological) of the uterus from the circumstance that in cases where the two conditions were conjoined—viz., uterine irritation and liability to attack—the attacks always appeared to cease on removing the irritation. In fact, experience revealed to me that in the course of treating the disorder of the uterus, the liability to hysterical attacks ceased. Further observation showed that the peculiar irritation productive of hysterical symptoms and attacks was always one and the same—viz., a flexed and distorted state of the uterus. Since I first became aware of this relation I have omitted no opportunity

* "Études Cliniques sur l'Hystéro-épilepsie ou Grand Hystérie." Par Dr. Paul Richer, Paris: Delahaye. 1881.

which has occurred to me for verifying and repeating the observation. Cases of this kind now referred to, do not present themselves with great frequency; cases of marked hysterical paroxysms, so far as my experience goes, are not very common, but during the last ten years, during which I have been testing the matter in question, several instances have fallen under my notice; and as yet the facts I have collected are strictly confirmatory of the truth of the above generalization.

There appear to be two classes of cases:—

1. Those in which the attacks are induced primarily by some strong emotion—the reception of distressing news, a fright of any kind, a severe mental shock, etc. Here the operation of the causes is a direct action on the central nervous system, which in such cases may or may not be weakened in some way, and predisposed, or not, to be affected by an excitement acting from without. These cases are undoubtedly met with in practice, but they seem to be rather rare.

2. Those in which the attacks are induced primarily by a reflex disturbance from within, and quite distinctly so. This class of cases is numerically far more frequent than those classed in the foregoing list. They include cases in which the hysterical manifestations are severe, and more or less constantly liable to occur.

Now, the evidence which I have been able to collect, to me convincingly shows that the reflex irritation causing these attacks and other hysterical manifestations is an irritation having its seat in the uterus, and that the particular irritation most potent in producing the reflex disturbance is flexion of the uterus. This view is one which I expressed about twelve years ago.

In the course of my professional experience, I have only met with cases which seemed to be cases of hysteria produced in the reflex manner, and I have seen none in which hysteria of a severe character has been brought about emotionally. I do not deny the existence of the latter class of cases (certain of M. Charcot's cases, for instance), but it so happens that I have seen none. On the other hand, I have met with many cases coming under the former category, and in such cases, the uterus was found to be the cause of the symptoms; the facts of the cases,

the results of treatment and the whole phenomena of the cases in question, indicating in what has seemed to me a most unmistakable manner that this view of the case was a correct one.

What the precise nature of the condition of the uterus is which is capable of giving rise to such remarkable manifestations is a matter of great interest. The results of my observations have led me to the conclusion that in these cases the uterus is in a condition of what may be termed traumatic congestion, by which is meant that the blood current is forcibly arrested in the tissues of the uterus. The common cause of such arrest in these cases is compression of the organ at its center by the bending or flexion of the uterus. There occurs as a result, acute congestion of the body of the uterus, which becomes aggravated by certain movements and diminished by others. Whence it happens that exertions capable of increasing the flexion, are found to bring on the attacks or other hysterical manifestations, while, as a rule, rest and the horizontal position are equally potent in removing them or in preventing their occurrence.

The word "traumatic" seems suitable as explaining the nature of the congestion present under these circumstances.

The intensity of the traumatic congestion present in different cases appears to vary, but its main characteristics seem to be the same in all instances that I have observed. And the worst and the severest cases of hysterical convulsions have been those in which the degree of traumatic congestion of the uterus was actually greatest.

There is another etiological moment present—viz., the compression of the nervous filaments of the uterine tissue at the precise spot where the flexion compression is greatest. When the uterus is forcibly flexed, such compression occurs.

I have here the model of a section of the uterus constructed in sponge.* The model is six times the normal length of the uterus, but the thickness of the walls and the due relation of the parts are carefully preserved. The model is constructed in order to exhibit the effects of acute flexion of the uterus on the uterine tissues. It will be observed that when the sponge uterus is bent

* The model was here exhibited by the author, and the action of flexion on the uterus illustrated by its means.

so as to imitate the change of shape observed in acute flexion of the organ, the sponge is greatly compressed and squeezed together on the concave side of the bend. The model thus enables us to understand that the center of the uterus is the seat of great compression in cases of flexion, which compression is increased by increase of the flexion. The sponge model also serves to illustrate the production of traumatic congestion, for the compression due to flexion is the cause of the interference with the circulation of the uterus.

Whether the traumatic congestion of the uterus or the flexion-compression is the more important in giving rise to reflex hysterical manifestation, it does not appear to be easy to determine. Possibly both moments are important. And it may be that the presence of traumatic congestion operates in inducing hysterical phenomena by virtue of the compression of the uterine nerves in those parts of the uterus which are actually the seat of the congestion.

The accompanying drawings represent flexions of the uterus severe in degree. Fig. 1, shows a third degree of ante flexion of the uterus. Fig. 2, represents the uterus in a case of retroflexion in the third degree. The seat of the compression is principally the wall of the uterus on the concave side of the flexion.

I adduce in support of the views now enunciated a series of eighteen cases, arranged in chronological order, observed by me

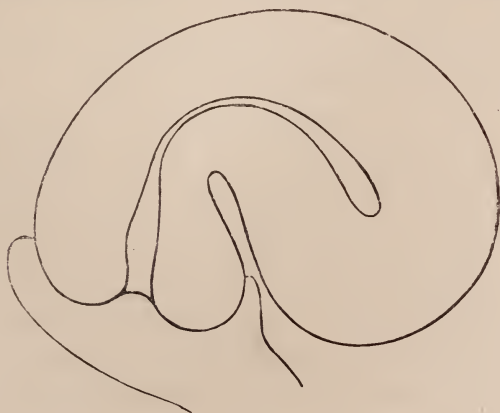


FIG. I.—Anteflexion of Uterus (Third Degree).



FIG. II.—Retroflexion of Uterus (Third Degree).

during the ten years from 1870 to 1880. I have observed other cases also, of which records have not been kept. The following series are all of which I have kept records. There are six cases in which the uterus was retroflexed, and twelve in which ante-flexion was observed.

CASE I. Chronic retroflexion. Severe hysterical attacks.—Mrs. — had been liable to frequent severe hysterical attacks, after which she usually remained in a state of quasi-insensibility for some time, ever since her first confinement, which occurred upwards of twelve years previously. Latterly severe sickness had occurred. The uterus was found acutely retroflexed. There was an absolute cessation of the hysterical attacks from the time the treatment of the retroflexion was commenced.

CASE II. Acute ante-flexion of the uterus. Almost entire suspension of menstruation for two years. Severe hysterical attacks.—The following is an abstract of the case which is more fully published in the third edition of my work on “Diseases of Women.” The patient was single, æt, nineteen, a dressmaker. Two years ago became attacked with “hysterics,” at first severe, afterwards less so. On one occasion she lost her voice for five months. Has had lately a peculiar cough. Menstruation only once in the two years. While in the hospital had several severe hysterical attacks, strong convulsive action and attempts to beat

her head on the floor, sometimes several in the day, and a peculiar cough resembling that observed in laryngismus stridulus. The uterus was found to be in a state of acute ante flexion. A stem pessary was employed. The attacks at once became less frequent. In a month she was made out-patient; fits ceased. Two months latter pessary removed, complete cure and return of menstruation.

CASE III. Acute anteversion of the uterus. No menstruation. Severe epileptiform attacks.—For fuller particulars of this case see third edition of my work on “Diseases of Women.” The patient was single, æt. seventeen; never menstruated. For ten weeks has had fits, as many sometimes as twenty in the day. In service since age of ten years. Pains in hypogastrium and frequent micturition for four months. Uterus anteverted. Sound easily introduced. Cradle pessary introduced. A month later the fits had become reduced in frequency, and she left the hospital. Menstruation appeared about two months after commencement of treatment and was followed by a complete cessation of the attacks.

CASE IV. Acute ante flexion of the uterus probably of one year's duration. Convulsive attacks occurring frequently during that time.—The patient was married, thirty years of age, had one child four and a half years ago. Health tolerably good till one year ago. Six weeks nursing a sick child appears to have made her ill. The illness began with an attack consisting of slight loss of consciousness for a moment, then convulsions. Since that time has had two attacks—two or three a day as a rule; the attacks last a short time, are not accompanied with loss of consciousness as a rule, and during the last three months have become more intense; menstruation had also ceased for three months, but has just occurred again once. The uterus was found acutely ante flexed. A cradle pessary was applied, the sound used to straighten the uterus. The attacks became at once reduced in frequency and intensity. During the first four days had altogether eleven attacks; during the succeeding ten days only five attacks; altogether she was under observation for seven weeks; the attacks latterly only occurred once in two or three

days, and were very slight, while menstruation had occurred a second time rather profusely.*

CASE V. Retroflexion of the uterus. Hysterical attacks following exertion.—Mrs. —, æt. nineteen, married fourteen months. Has had no child. Suffers from hysterical attacks, and her medical attendant believed her to be affected with retroflexion of the uterus.

It appears that four years before marriage she had a severe attack of scarlet fever, which left her so weak that she did not walk for one year, and then began with crutches. Since recovering from this attack she has been liable to what are termed hysterical attacks, following any exertion.

Menstruation is profuse and too frequent. The uterus is soft to the touch, very distinctly retroflexed. A pessary was applied.

The patient completely recovered, and had a child two years afterwards.

CASE VI. Acute ante flexion. Severe hysterical attacks.—Mrs. —, æt. thirty-four. Has been married fifteen years; has had no children. Menstruation always painful. Has had bearing-down for years. Ten years ago had St. Vitus's dance, not severely; but has occasional symptoms on and off, such as nervousness for an hour or two when excited. Six months ago had been nursing, for five months severely, and began to feel excessive bearing-down and strangury, became insensible for a week, and urine had to be drawn artificially. Had also acute pain in abdomen and hypogastric region, the difficulty in passing water continuing. She had severe convulsions at intervals during the time. Ever since this time she has had severe attacks of what are termed "strong hysterics" after any slight fatigue. Uterus in a state of acute ante flexion. A cradle pessary was applied. Relief. Later history not known.

CASE VII. Retroflexion of the uterus. Hysterical attacks.—E. J., a cook, single, æt. twenty-six. Three years ago was under treatment for uterine affection. Has suffered for some time now from hysterical attacks, which last for about twenty minutes, and

* Fuller particulars of this case in *Lancet*, August 7, 1875.

during which she becomes unconscious. The last attack came on during the singing in church, and she had to be carried out.

Uterus retroflexed. A pessary applied. Cure.

CASE VIII. Slight ante flexion of the uterus. Attacks of convulsions. Mrs. —, æt. thirty-three, had four children, the last born six years of age. Six months ago had a convulsive seizure, following a course of nursing and over-exertion. The convulsions produced a kind of opisthotonos. She was conscious throughout, but could not move for ten days. Since this attack has occasional twitchings. No sickness. Easily tires from short walks. Uterus a little ante flexed. Sound enters with difficulty. Treatment, rest. Result, favorable.

CASE IX. Acute ante flexion of the uterus. Suppression of menstruation. Severe hysterical attacks.—Miss —, æt. twenty. Has always been weak and delicate. Menstruation began at twelve.

Two years ago she bathed in the sea just before the time for the period, and it did not, consequently, occur. She became very ill, and menstruation did not occur for three months. Since that time she has been liable to severe hysterical attacks, and to frequent threatenings of attacks. There was a further catching of cold five months ago, and the menstruation has not occurred since, with one exception.

The uterus was found very low down in the pelvis, and ante flexed. A cradle pessary was employed. The hysterical attacks ceased, but the patient remained for some time in a weak condition. Finally, restoration to health. The hysterical symptoms did not recur.

CASE X. Retroflexion of the uterus. Hysteria.—Miss —, æt. forty-one. Had a fall from a horse twenty years ago, and has been ill ever since. Treated for hysteria for a long time. It was discovered, nine months ago, to be a case of retroflexion, by Mr. Palmer, of Nayland, Colchester, who has nearly succeeded in restoring the uterus to its proper place, and she is now much better.

CASE XI. Acute ante flexion of the uterus. Severe hysterio-epileptiform attacks.—Mrs. —, æt. twenty-one. Married

three years. Ill since six months after marriage. Is subject to severe hystero-epileptic attacks. These chiefly occur after sitting upright, as at meals. They are very severe, and the general disturbance is very acute.

The uterus is in a state of acute ante flexion and much tilted forwards. There is very great tenderness of the epigastrium and of the back, particularly at three special spots. •

The flexion and displacement were treated by the sound and a cradle pessary. The attacks were relieved at once, and have not returned since.

CASE XII. Acute ante flexion of the uterus. Severe convulsive attacks.—Miss —, æt. thirty-eight. Out of health one year. Had an attack of bronchitis, on recovering from which she had a succession of severe nervous attacks, on one occasion being for five or six hours unable to speak, move, or show any signs of life, but was all the time conscious. There were many other severe attacks. For three or four months could not sit up one hour, though she could walk a little. Has not improved the last three months. To quote the patient's own description:—"There is constant pain in the back, almost constant sickness or nausea, occasional violent retching brought on by walking or even talking. Any exertion of mind or body produces clinching of the hands, and a horrid feeling all over the back and back of the head. Menstruation regular, but extremely painful, and inability to move at these times increased. Feels very often faint, and a sensation then begins in the brain. She feels that she cannot speak, and is very unlike herself. On recovering, feels as if she had been some one else all the time, or as if she had two selves, one quiet and sane, the other idiotic."

Severe ante flexion of the uterus. Treated by a cradle pessary. Complete cure.

CASE XIII. Acute ante flexion of the uterus. Severe convulsive attacks just previous to menstrual periods.—Miss —, æt. twenty-eight. Has suffered from severe convulsive attacks since menstruation commenced. These attacks appear generally just previous to menstruation. They have been considered due to disease of the brain.

The attacks are of the following kind:—The eyes become fixed on the ceiling, the teeth clenched, the back arched and rigid, the limbs also contracted and set. There is incapability of speaking, but the patient knows what is going on. The skin is deadly cold. The attacks last from an hour to an hour and a half. The patient was found to be suffering from acute ante flexion of the uterus. She was treated for this by a cradle pessary and occasional use of the sound. After three months the attacks had become greatly lessened in frequency. Half a year elapsed before the patient was next seen. The attacks had disappeared. A slight sensation of faintness only was occasionally observed at times. A year later, still free from attacks. The ante flexion of the uterus was difficult to cure in this case, but the final result satisfactory.

CASE XIV. Retroversion and slight flexion of the uterus. Convulsive attacks about menstrual periods.—Miss —, æt. twenty-nine. Four years ago began to suffer from convulsive attacks which always came on about the second day of the menstrual period. She remains insensible about half an hour (once in two days) after the attack. Has had five attacks. Has had much exertion in lifting and nursing. Uterus markedly retroverted and a little flexed. Treated by pessary. Cure.

CASE XV. Acute retroflexion of the uterus. Severe hysterical attacks. Mrs. —, æt. thirty-eight. Has had no children. About one year ago began to have severe hysterical attacks, with screaming and much excitement. Occasionally every word excites the sensation of an attack coming on. Formerly could walk well. Walking power now very much more limited.

Uterus acutely retroflexed, extremely sensitive to the touch. Treated by the sound and by a Hodge pessary. One year afterwards she stated that she had had no more attacks, and was in all respects feeling quite well and strong.

CASE XVI. Uterus anteverted.—Hysterical attacks. Mrs. — æt. thirty. Four children. Hysterical attacks and pain after exertion. Uterus anteverted, wearing a Hodge pessary, the overaction of which has produced anteversion of the uterus, or exaggerated it.

CASE XVII. Antelexion of the uterus. Hysterical attacks. — Mrs. —, æt. twenty-four. Three children. Two years ago began to have hysterical attacks, with pains in the head, and dullness. Since last confinement, five months ago, the attacks are more frequent. The patient has a frequent choking sensation. She is obliged to stand a good deal.

Uterus low down, antelexed; fundus close to symphysis pubis.

Treated by a cradle pessary. Cure.

CASE XVIII. Antelexion of the uterus. Hysterical attacks and severe sickness. Miss —, æt. thirty-three. Five years ago lifted a heavy weight, and fell ill in consequence. Two years ago began to suffer from sickness. The sickness has been almost incessant ever since. Dysmenorrhœa also of late. For the last four months has been subject to fits of insensibility. The head feels strange; she lies down and knows no more for some time—once for as long as twenty-four hours. When she returns to herself has much aching of the jaws. Uterus very low down, larger and antelexed. There is great tenderness over right ovarian region. Very severe and troublesome sickness almost constantly present. Treated by cradle pessary. Great improvement, sickness subsided, attacks ceased. Pessary removed one year and nine months later, when the patient seemed well. Five months later, return of symptoms and re-employment of cradle pessary.

The cases above related, coupled with others which I have seen, but of which I possess no sufficiently good records, have induced me very decidedly to come to the conclusion that it is the uterus which is the seat of the irritation, which issues in the hysterical attack. The manner in which the attacks originated, the circumstances attending the subsequent occurrence of them, the relief, and in many cases the instantaneous manner in which the attacks ceased when the uterus was straightened and put into its proper position in the pelvis—the facts and observations, repeated over and over again have forced this conclusion upon me.

The occurrence of hysterical paroxysms was, in the large majority of cases which I have witnessed and investigated, apparently brought on by some physical exertion. This is the most important circumstance. The importance of it arises from the

following considerations:—When the uterus is in a state of flexion, either forward or backward, the act of lifting, or stooping, or over-walking, or standing, has the effect of intensifying the flexion; the uterus is pushed lower in the pelvis, and its curvature becomes exaggerated. This is a fact abundantly borne out by clinical observation. The result of increase of the flexion of the uterus is to increase the congestion; there is in such cases congestion to begin with, but the physical exertion leads to its very considerable aggravation, and when the aggravation reaches a certain point the hysterical attack appears.

On the other hand, by taking measures such as are adapted to prevent the aggravation of an existing flexion—that is to say, by keeping the patient in a horizontal position—the attacks are not found to occur, or, at all events, become much diminished.

Observation shows that the dorsal position prevents hysterical attacks due to antelexion, but that the prone position is most effective when the case is one of retroflexion. These facts are most interesting. Out of the eighteen cases related, twelve were cases of antelexion, from which it appears that the most common cause of hysterical attacks is presence of antelexion of the uterus. One of the principal reasons why the mechanism of the production of the hysterical paroxysm has so long escaped recognition is, I believe, the fact that antelexion of the uterus has, up to quite a recent period, been hardly allowed a place in nosology. I cannot stay here to explain this latter circumstance; but I take the opportunity of saying that, having for many years closely observed and investigated the mechanical diseases of the uterus, I have long been impressed with the grave nature and frequency of the symptoms to which this variety of distortion and displacement of the uterus is capable of giving rise.

I may be permitted, in conclusion, to make a few remarks on the ovarian theory as to the origin of the attacks, which has of late been so warmly advocated by Professor Charcot.

It is well known to gynæcologists that the ovary is sometimes found to be prolapsed, and can be readily felt in the Douglas' pouch. It is there subjected to great pressure and irritation, and much pain and suffering is found to be present in such cases. These cases would therefore be supposed to be of all other cases

in which hysterical attacks should occur, supposing that the ovaries are the principal point of origin. I do not deny that such dislocation of the ovary may cause hysterical attacks ; but I have, at all events, not seen attacks of hysteria in such cases of dislocated ovary, unless accompanied also by acute ante flexion of the uterus. Retroflexion and dislocation of the ovary are not seldom associated.

Further, in the cases of hysteria above related, where flexion of the uterus was undoubtedly present, the ovaries were not found to be particularly sensitive, nor was there evidence of ovarian disease.

The fact that pain is frequently felt in the ovarian region in cases of hysteria, on which much stress has been laid by those who adopt the ovarian theory, is explained by the flexion of the uterus. Having made many observations on this subject, I am able to state that pain in the ovarian region is a very common symptom in cases of uterine flexion. It appears to be due to the fact that the flexion is generally a little to one side, the uterus not being usually bent directly backwards or forwards, but most usually a little to one side or the other.

Two series of facts described by Professor Charcot are adduced by him to support the theory that the ovary is the *point de départ* of the paroxysm in hysteria and hystero-epilepsy.

In the first place, Charcot states that pressure over the lateral hypogastric region has the following effect:—"Pressure there produces not only pain, but a sensation accompanied by all or some of the phenomena of the aura hysterica. Thus, methodical compression of the ovary determines the production of the aura, or sometimes even a perfect hysterical seizure."

In the next place, Charcot states that a more energetic compression is capable of stopping the development of the attack, when beginning, or even of cutting it short when the evolution of the convulsive accidents is more or less advanced.

The method adopted by Professor Charcot to effect the more severe compression is as follows:—

"The patient should be horizontal in dorsal decubitus on the floor, or a mattress. The physician then kneeling on one knee, presses the closed hand, or fist, into that iliac fossa which he had

previously learned to regard as the habitual seat of the ovarian pain. At first much force is required to overcome the abdominal muscles. Pressure then produces numerous and noisy attempts to swallow. Consciousness returns almost at the same time. Now the woman moans and weeps, says she feels relief, or that you are hurting her. By continuing the pressure two, three or four minutes, you are almost certain to find all the phenomena of the seizure to disappear as if by magic. When the abdominal resistance is overcome, pressure by the two first fingers is sufficient."*

It may be desirable to consider how far the results of Professor Charcot obtained by pressure, as above described, over the ovarian region, are antagonistic, or the reverse, to the uterine theory above formulated, as to the cause of the paroxysm in hysteria and hysterio-epilepsy.

The pressure employed by Professor Charcot is a very forcible pressure made in the hypogastric lateral region, calculated, first of all, to abolish the resistance of the abdominal muscles—a resistance considerable in many cases; and secondly, to produce a real compressing influence on the organs which lie in the pelvis. The incidence of this pressure, which is effected by the fist, or by an apparatus specially contrived for the purpose, is rather widely spread, and it is such that it must almost of necessity affect not only the ovary, but first the uterus, and secondly the ovary. Doubtless when the resistance of the abdominal muscles is overcome, the pressure can be more particularly pointed on, or directed towards the ovary, or concentrated on this latter organ. But at the same time it is almost inevitable that the uterus should be greatly affected by this pressure, and must receive a considerable portion of it. Considering for a moment the operation of such pressure on the uterus, the effect might be different, according to the position of the uterus at the time. Thus, if the uterus were much anteverted, the result would, or might be, to push it still lower in the pelvis, and to increase the anteversion; but the action of the pressure would be further to express the blood from the uterine vessels, and to diminish any congestion of

* See New Syd. Soc. trans. of Charcot's "Lectures," p. 27.

the organ existing at the time. If the pressure were made directly behind the pubic bone, the effect might, on the other hand, be such as to push the uterus backwards, and, in the next place, to drive the blood out of its tissues. A further effect of the pressure would be, in any case, to diminish the flow of blood to both uterus and ovaries alike, by the general action of the compressing power on the blood of the pelvis.

So far as I am able to judge, therefore, it would appear that the operation termed ovarian compression is really entitled to be denominated "uterine," quite as much, perhaps even more, than it is to be described as ovarian compression.

But this is not all. Professor Charcot states that slight pressure of the kind above described often brings on pain and symptoms of the hysterical aura—that is to say, the attack is capable of being brought on slight pressure, and relieved by severe pressure. All this is quite in unison with the argument which I just advanced, for supposing a version or flexion to exist, the slight pressure above the pubes, such as Charcot describes, would undoubtedly at first intensify the displacement. The slight pressure would temporarily thus so act on the uterus as to induce the attack.

In conclusion, I would express my conviction that the escape from the indefiniteness of view, which up to the present time has characterized the various opinions entertained as to the nature of "hysteria," is to be found in the frank adoption of the term "hysterical" in its most literal sense, and that in the future the uterus will be held to be in the main responsible for those various manifestations and disorders denominated "hysterical."—*Transactions of the International Medical Congress, 1881.*

GENERAL PARALYSIS.* By PHILIP ZENNER, A. M., M.D.

To the majority of physicians, insanity, in many of its aspects, is a sealed book. Their intimate relations with people of all ranks and all grades of intelligence, sharpens their natural powers of

* Read before the Cincinnati Academy of Medicine, October 23, 1882.

discrimination, and enables them to say in this or that case, there is a departure from the normal; there is a degree of mental unsoundness. But, as regards the different types of insanity, their development, modes of manifestation, and pathological substrata, they are usually not informed. Nor can it be demanded of the busy practitioner, that he should possess that special knowledge, whose attainment demands of the specialist years of diligent study, the services of the latter being always at his call. But there is one form of insanity, which attacks the most valuable members of society, able-bodied, hard-working, intelligent men, which comes on insidiously, and threatens the deepest interests of the family and society, that every physician should know, and know well. It is that usually termed general paralysis of the insane, or dementia paralytica.

To the intelligent being, there is nothing more interesting than observing the development of intellect; to see it budding in the crowing infant and prattling child, unfolding its powers in the youth whose increasing knowledge and growing mastery over self display his strengthening character, or achieving its wonderful conquests in the realms of industry, science or art in the adult man. But the study of this disease brings before us quite an opposite development. We will have to do with the decay, the saddest chapter in the history of intellect. In its retrograde course, it will not infrequently remind us of the intellectual status of the infant and the child.

Within the limits of a brief article, we will necessarily be enabled to do but partial justice to our subject. Many points we must pass in complete silence. Some, even of importance, can be barely mentioned. Again, others we will try to enter into fully, especially such as are of great practical value, or whose thorough comprehension may be necessary for a proper understanding of the disease.

General paralysis is essentially an affection of the anterior portion of the cerebrum, of that part which the study of comparative anatomy and anthropology indicates to be the seat of intelligence, and which modern experimental investigations indicate to contain the motor centers. And it is morbid manifestations of intelligence and of the motor functions, occurring simultaneously

and progressing co-relatively, that constitute the essential features of this disease.

The pathological anatomy consists of changes in the membranes of the brain, usually most marked in the anterior portions, and changes in the cortex and subcortical regions, affecting chiefly the anterior cerebral convolutions. The minute changes in the brain substance are still matters of controversy. In this place, where we wish to enter into important practical considerations only, we will not complicate our study with the many theories and facts in this relation, but content ourselves with the knowledge that the result of the pathological processes is atrophy of the brain.*

With the question of causation we will also be brief. The disease occurs chiefly in men, only in adults, and at the prime of life. Hereditary influences, or other predisposition to cerebral disease, as former disease or structural defect, seem here to play little or no part. It appears to be caused directly by the injurious influences with which one has to contend in the struggle for existence. We find the disease usually in those who have just been performing unusually prolonged and difficult intellectual work. But, as mental overwork scarcely ever has that disastrous influence exerted by passion or other undue strain of the affective life, so we can seldom, if ever, attribute the production of the disease to intellectual strain alone; but will find also a history of unusual excitement, of anxiety, or, perhaps most frequently, of great disappointments. In proof of the overwhelming weight of these factors, the disease is especially rife after great financial crises or political revolutions. The importance and frequency of these causes are universally recognized. Some believe that alcoholism, excessive venery and syphilis(?) are frequently causes of the disease. It occurs with different degrees of frequency in different nationalities. In the highlands of Scotland and Ireland its

* In advanced stages of the disease, the atrophy is very apparent. Meynert has further established, by weighing separate portions of the brain in a large number of instances, that the atrophy is most marked in the anterior cerebral convolutions. The pathological processes that lead to such atrophy are still subjects of discussion, and far from being established. We will mention two of the most plausible theories. The first, that of Lubinoff, is that there is primarily a hyperæmia, due to disturbances of the sympathetic nervous system, this hyperæmia causing a mechanical obstruction to the lymph circulation, and thence leading to further changes. There is much that speaks for the correctness of this view. The second theory referred to is that the disease is an interstitial encephalitis.

occurrence is rare. Steinen declared that it is hardly known in Java. Its frequency has been ascertained in some colored races. Altogether, it can scarcely be doubted that it is most frequently found in the most highly civilized countries, just as it is most frequently found in highly intellectual individuals.*

We come now to the symptomatology, the most important part of our subject.

He who has previously been active and diligent in his business transactions, is observed to become listless in his manner, and careless of his affairs. Instead of going to his place of business, he lies listlessly about the house, or he appears to be absent-minded, forgets his hat and cane, or perhaps takes an entirely purposeless drive. It is usually said that at this time his memory is already weaker, as he cannot recall the events of the day, can not tell what he has just eaten at a meal, etc. But we would little comprehend his mental condition, should we attribute such occurrences to mere impairment of memory. The latter, as ordinarily understood, is as yet unaffected. The events of a past time can be as readily recalled as ever before. It is only of present occurrences that he takes little cognizance and has no recollection. It is because his power of attention is beginning to fail, that he notices only slightly things about him, and therefore does not remember them. In this disease, the highest faculties of intellect are first to fail. Memory can scarcely be called one of its highest faculties. See the many gifted men with but ordinary memories, and occasionally a but poorly gifted individual with marvellous powers of recollection. But the powers of attention, concentration, abstraction, are most marked in the highest intellects, and when the mind is in its best condition. Our patient, in whom these higher attributes are failing, is in the condition of a day dreamer. He but follows the association of ideas as they uncontrolledly flit through his consciousness. He has lost the power of attention which brings things singly into consciousness, and makes them to be easily remembered.

With the failure of the power of attention is early associated

* In a paper read at the last International Medical Congress, on the "Race Relationship of General Paralysis," the author suggests that the use of the potato for a diet is perhaps the cause of the infrequency of the disease in Ireland!

an impairment of the judgment. He mismanages his business. He entertains senseless projects. And soon those delusions begin to appear, which, to the laity, have always been the most noticeable and marvellous features of this disease, which the French have termed *délire des grandeurs*, the delirium of grandeur. Faint indications of this kind may be early detected, but the outspoken delusions are only present when the judgment is entirely in abeyance. At this time, anything that is desirable seems possible to him. If the patient be a female, delusions are most likely to be on the subject of dress. Though she be attired in rags, she speaks proudly of her silks and satins, of her jewels and precious stones. In man, the delusions are usually of riches, of power or glory. In his squalid den he gratuitously dispenses millions, and proclaims himself a prince or a sovereign. And, further, on account of his low state of intellectuality, his delusions are constantly changing.

The grandiose character of the delusions of this disease has been attributed to irritation of the cortical hemispheres. But, it seems to me, an explanation based upon psychological data would be clearer, and, perhaps, more correct.

In the great majority of cases, a feeling of elation and well being is dominant during the whole course of the disease. The patient never has any feeling of illness, but seems to overflow with a sense of health and power. Hutchinson has well insisted upon the fact that temperament is usually but the expression of the state of physical health or bodily comfort. In cases of strutting health, with the prevailing feeling of well-being, we will ordinarily find a sanguine temperament, while a melancholic is perhaps the result of past disease or present suffering. Nowhere else, so much as in general paralysis, does this feeling of physical health so domineer every thought and utterance. It renders the disposition an exceedingly joyous one, and it makes of every vagrant fancy an uttered delusion. The infant, with its sense of muscular power, stretches his hand toward the moon in order to grasp it. The paralytic, who has scarcely more judgment than the infant, and whose weakened intellect, unobservant of external things, dwells only on the *ego*, in his sense of health and power

believes everything belongs to him, that everything is possible to him.

But in the later stages of the disease, when a smile or laughing face is nearly always present, and the most absurd delusions the only utterance, we must not suppose these to express an active joyousness or ambitious projects. He has arrived at that stage where life is scarcely more than animal life, and actions and words scarcely more than reflex actions. We have all seen how happy a mother is when she for the first time sees her infant's smile in response to her own. She thinks she sees a happy soul behind that smile, and knows not that it was merely the reflex of her own act. In our patient, in this last stage of the disease, his smile scarcely expresses a deeper feeling than the infant's. His face is only a mirror of what is passing about him. If you smile before him, his face broadens in laughter; if you assume a mournful countenance, he breaks into tears. His uttered delusions are but the remembered words and phrases of a former life.

Coincident with the impairment of the intellect, the emotions and the will become equally affected. As the power of observing external things and the judgment become weaker, the higher kinds of feeling, those which give tone to our character, the æsthetic, the ethical, etc., become fainter, and only the lower, the transitory, those excited by sensuous perceptions, arise in the consciousness. The will yields equally. Actions become impulsive, responding to the fleeting emotions, the controlling influences, which give their determined and purposive character, being lost. We can thus easily account for the impulsive and irresponsible actions of the paralytic, and have only to add that the intensity of his emotions and the energy of his actions have also become much enfeebled.

We have now reviewed the general changes in the intellect and character of the paralytic in their general decay. We have attempted to view them from the higher standpoint of their psychological causes, as learned from the natural development and decay of mind. We have given no full description of his mental condition; of the many delusions he may entertain; of the mental weakness displayed, as much in the easy manner in

which he is diverted from his schemes, as in the schemes themselves; in his utter incapacity to judge of the acts and motives of others, as well as his own, and, further, of his defective moral sensibility, and of his apparently motiveless actions. We cannot pretend to give a full description of this ever-varying picture. To do that it would be necessary to mention all the possible conclusions of a weakening judgment, all the feelings of a narrowed egotistical existence, and all the actions of a wavering mind. But, where it exists, the competent observer will be able to recognize the picture of mental weakness. For he, who has learned to know the springs of human actions, who knows something of the capabilities of the human mind, will be able to judge whether the performances of the individual correspond to the ability with which he has been hitherto credited, whether his actions are prompted by such motives as in a normal mind.

We come now to the second set of symptoms, the motor phenomena of this disease. These are of great interest for they recall and corroborate facts gained by experimental investigation. The paralyses are cortical in their origin. Experiment has shown that cortical lesions leave but very slight paralyses, which are chiefly manifested in complex movements. This is the exact character of the paralyses of this disease. They are mostly not readily observable, and are brought out by complex movements requiring the delicate play of muscles. The paralyses usually observed are those of the facial muscles, dilatation of the pupil (usually on the same side as affection of the facial, and that generally on the right side), and tremor of the lips and tongue. Of these we will again speak when on the subject of diagnosis.

We have said that the above are the usual paralytic manifestations of general paralysis. We might add they are in the great majority of cases the only paralyses due to the cerebral lesions. But—and here we are approaching the most inexplicable part of our subject—in very many cases of this disease there are spinal as well as cerebral lesions. It is a striking fact that in the most common of the organic diseases of the cord, locomotor ataxy, cerebral symptoms due to lesions of the optic, third, sixth, and other nerves are often present, and in this, the most common organic disease of the brain, spinal lesions are frequently found.

For the connection of the spinal with the cerebral disease, as in the other case the appearance of the cerebral symptoms with spinal disease, there has as yet been no satisfactory explanation.*

The spinal symptoms are mainly those of paraplegia. The impaired gait may be like that of locomotor ataxy, due to incoordination of movements, or the spastic gait of spastic spinal paralysis, or merely a weakness of the muscles not characterized by either of the above types. The pathological anatomy is sometimes that of typical locomotor ataxy, sclerosis of the posterior columns. Sometimes myelitis of the antero-lateral columns.† In cases with the symptoms and pathological changes of locomotor ataxy, the cerebral symptoms of that disease, myosis, paralysis of the ocular muscles, etc., are often present.

The spinal symptoms may precede those of mental derangement, but more frequently they occur later. Westphal, who discovered that the absence of the patellar tendon reflex is nearly always a sign of disease of the posterior columns of the cord, has enabled us to detect spinal lesions even when the symptoms of such disease are not present. He has thereby been enabled to determine that spinal disease occurs more frequently in general paralysis than is usually supposed, and has proved on the post-mortem table the correctness of the diagnosis of spinal disease where, during life, there was no spinal symptom.

Before concluding the subject of symptomatology we will mention a few facts, exceedingly important in themselves, but of which our limited time will allow but the mere mention: that is the occasional occurrence of epileptic or apoplectic attacks, and the not infrequent outbreak of acute maniacal excitement.

* The explanation that when the posterior fasciculi are affected, there has been ascending disease from the cord, when the lateral columns are affected, descending disease from the brain to the cord, is not tenable. There has been no anatomical evidence of such a continuity of disease, and clinical histories are often not in accordance with such a development.

† In the last number of the *Archiv, f. Psychiatrie und Nervenkrankheiten*, Zachler reported a case with the ordinary manifestations of what has been termed spastic spinal paralysis, paresis, muscular rigidity, exaggerated tendon reflexes, etc., in the lower extremities, in which he found no changes in the cord. Hence, he has claimed that these symptoms may be due to cerebral rather than spinal diseases. Although the set of symptoms first mentioned which Erb and Charcot have attributed to disease of the pyramidal tracts in the cord have not yet with certainty been associated with any exact pathological changes, yet in the great majority of such cases, where post-mortem examinations have been made, very decided spinal lesions have been found. So that, notwithstanding the above mentioned case, I believe, we need not hesitate to assign that complex of symptoms to spinal, and not cerebral lesions.

The occurrence of peculiar disturbances of vision, first noted by Fürstner, and since then by a few others, and the efforts to bring them in relation with certain changes in the cortex, have an interest for the physiologist, rather than any clinical importance.

We just now enter into that part of our subject, practically so important, the diagnosis of the disease.

When the patient has become a maniac, when his speech consists of mere utterances of his delusions which amuse even a child, the physician is no longer called upon for a diagnosis, though even then mistakes of a kind to be later mentioned are sometimes made. The family no longer needs his advice to avert financial ruin or personal calamity, and the patient has probably been removed for safe keeping to the asylum of the alienist. It is in the inception of the disease when the weakening judgment, the germinating delusions of the one still considered by society as a responsible agent is leading him into ruinous enterprises and senseless extravagancies, possibly to be attended by an outbreak of madness which threatens human life, that the ready perception of the physician, a correct diagnosis proves of inestimable value. And at this time a correct diagnosis is peculiarly difficult.

In the beginning the changes are usually slight such as are only noticeable to those intimately acquainted with the patient. There may be some change in his disposition, but what is especially noticeable is that he does not observe and take interest in things as before, neglects his own affairs. Already there is some impairment of the intellectual faculties. But the examiner must be pardoned if he cannot yet detect a slight defect in one whose mental powers equal, and possibly surpass, his own; for, as we have already stated, it is the gifted, the intellectual, who are most frequently affected. At least the practitioner will require all his acuteness to enable him to form a correct estimate of the mental condition of his patient at this time. He must rely partly on those who know the patient intimately, as to changes in his mental status. He must observe whether there is an apparent spirit of boastfulness, not formerly present (the first indication of the delirium of grandeur); try to determine

whether the patient can perform higher intellectual tasks, mathematical, conversational, etc., as well as before, test patient's memory and reasoning powers, in short, test patient's intellect in every possible direction. If the disease be already well advanced his task will be easy, in the beginning it may be beyond his power. At the same time he must look for motor symptoms, differences in the pupils, paresis of facial muscles, tremor of lips and tongue, or difficulties of speech.

If these and the mental symptom are observed (and fortunately for the diagnosis the two, even in the beginning, are usually found together) the diagnosis, even in the inception of the disease, is established with a high degree of certainty.

The paralytic symptoms, as before mentioned, are very slight and may be difficult to detect. If you will permit we will dwell briefly on the best methods of making such slight manifestations cognizable. To detect slight differences in the pupils let patient look at some surface evenly lighted, as the whitened ceiling, and the observer stand in such a position as not to shade either eye. If the facial paralysis is not observed in the drooping of one corner of the mouth, or the less prominence of the naso-labial fold on one side where the face is in a state of rest, slight changes of this kind may become more distinct after the patient has spoken for some time; or may be made apparent through his squeezing the hand of the physician, when the involuntary facial expression thus elicited will reveal slight differences in the muscular innervation of the two sides of the face.

The ordinary modes of detecting facial paralysis, by the patient exposing his teeth or laughing, are such coarse movements that they conceal rather than reveal the slight motor defects. The tremor of the lips and tongue can also be best detected after the patient has been speaking for some time.

But the best test of slight changes in the speech-making organs, and one of the most reliable of the diagnostic symptoms, is the affection of speech. We do not find the scanning speech so characteristic of multiple sclerosis, but one of a different character. There is a kind of stumbling in his articulation. Words are brought out with difficulty, and are frequently cut short, letters or entire syllables being clipped off.

We repeat, such slight paralyses are characteristic of general paralysis. Only at a late period does the tremor of lips and tongue sometimes become excessive, the speech become altogether unarticulate, or the facial paralysis very decided. As regards the other motor symptoms, of spinal origin, they will seldom aid us to make a diagnosis of general paralysis.

Let us consider the distinctive character of the delusions of this disease. The *délire des grandeurs* occurs in other kinds of insanity, but there is something distinctive of it as here manifested. In other forms of insanity, where the delusions of greatness are present (excepting in some forms of dementia, kindred to general paralysis, to which we will later refer) the delusions have a certain logical basis, and are more or less permanently in one form. If one believes himself to be a prince, that delusion is based upon some erroneous conceptions, which have become a part of his mental existence, and will remain steadfastly with him. But in our case, as already stated, those delusions result from an entire absence of judgment. They are the mere expression of a vagrant fancy. They are characterized by their senselessness and their variability.

Complications which may make the disease difficult of recognition are the occurrence of apoplectic or epileptic seizures, or an outbreak of acute mania. Sometimes the disease is ushered in by one of these conditions. In that case a diagnosis is, as yet, impossible (though in some cases, even during the period of maniacal excitement, indications of mental weakness or the presence of the peculiar paralysis will reveal the true condition.) If such a complication occurs during the course of the disease the diagnosis must be based on the previous history.

We must now speak of the diagnosis of the fully developed disease. First in importance and frequency, among the diseases which may be confounded with it, is alcoholism. Chronic alcoholism may produce all the symptoms of general paralysis. Or the two diseases are not infrequently present at the same time. In cases of chronic alcoholism with symptoms of general paralysis we must abide by the rule so often imposed upon us in obscure cases, that is, allow of a certain lapse of time before making a diagnosis. The importance of this rule in such cases cannot be

over estimated. For want of it mistakes are only too frequently made.

A second class of cases which may be mistaken for general paralysis is that where coarse lesions of the brain, most frequently due to hæmorrhage or embolism, are followed by dementia. In such the paralyzes are usually more decided than in general paralyzes, and point to a focal lesion. But the history will settle the diagnosis.

There is another class of cases, but a very rare one, in which a correct diagnosis is far more difficult; that is, cases of localized meningitis (usually primarily pachymeningitis, perhaps hæmorrhagic) occurring especially in the neighborhood of the central convolutions. That cases of this kind are often classed under general paralysis cannot be doubted. The diagnosis is often impossible. The course of the disease will alone (but not always) be able to clear it.

Lastly, we will only mention multiple sclerosis and cerebral syphilis, instances of which diseases being sometimes exceedingly difficult to distinguish from general paralysis. We must look for special symptoms of these diseases, and if these will not determine their character, we must again rely upon the course of the disease.

We have frequently mentioned the "course of the disease." This is clinically of the greatest importance. We know the disease rather by its course than its symptoms. The symptoms may be found in various other conditions, but the disease has a particular course peculiar to itself. Its average duration is three years. It almost invariably terminates fatally. Its duration is usually longer in woman than in man, longer in cases of a melancholic type than in others; and in some cases in which there are periods of improvement or apparent recovery its duration is indefinite. There is usually a gradual progress in all the symptoms, mental and motor, from bad to worse. Sometimes there are sudden and rapid changes, as an apoplectic attack followed by a considerable increase of the dementia; sometimes an improvement of indefinite duration. Death is sometimes caused by a gradual failing of all the bodily functions; more frequently it

is caused by an apoplectic attack, decubitus, pneumonia, tuberculosis, or disease of the bladder or kidneys.

In the preceding description we have given the symptoms of the usual or classical type of the disease. Other symptoms may be present, producing quite a different appearance from the ordinary picture. Sometimes instead of the usual slow manner of thinking and acting, there is a very flood of ideas, an unusual vivacity in thought and manner. Not infrequently there are outbreaks of maniacal excitement, when, it must never be forgotten, the patient becomes dangerous to his surroundings. Again we meet with conditions of mental depression. There are cases in which a depressed hypochondriacal state of mind marks the whole duration of the disease. In some instances delusions, usually so characteristic of this disease, are never detected. Hallucinations may or may not be apparent in a particular case. Spasmodic muscular affections complicate the history in some instances.

And so we might add other symptoms which give peculiar appearances in certain cases. But, and this is the important part which cannot be too much emphasized, whatever the clinical manifestation presented, the diagnosis is based upon the impairment of the intellectual faculties, and the peculiar paralyses, and is confirmed by the course of the disease.

The following cases are very briefly described to illustrate the preceding remarks. Cases illustrative of the incipient stages of the disease would be more valuable, but the material is lacking. For the opportunity to examine these patients and their histories, I am indebted to Dr. Harmon, of Longview Asylum :

T. D., age thirty-four, bank clerk ; duration of disease, two years ; excessive venery, also addicted to excessive use of alcohol. The first history of mental disorder is that of delusions of various kinds. His speech was soon observed to be slow and hesitating, his talk foolish, did not recognize his surroundings, believed himself to be in a barracks. Habits filthy.

At the end of eighteen months he had an attack of durable hemiplegia. Since then more pronounced delusions, especially of wealth.

Present condition. Secondary contractions and rigidity of

muscles of right arm and leg. Facial paralysis on the right side. Right pupil larger than the left. Tongue tremulous. Speech indistinct. Mind almost a blank.

In this case the diagnosis is based on the history. The dementia is the only symptom present pointing directly to general paralysis. The high degree of paralysis would, were it not for the history, lead us to exclude this disease. It is one of these rare cases in which an attack of hemiplegia, occurring in the course of this disease, is durable. The subsequent contractures lead to the inference that the disease has been complicated with a cerebral hæmorrhage. Yet purely cortical lesions have appeared in some cases to produce secondary degeneration of the pyramidal tracts, with subsequent rigidity of the paralyzed muscles. We will again call attention to the fact that the mental condition became rapidly worse after the attack of hemiplegia.

G. R., age thirty-five, farmer, married; duration ten years; cause unknown. In the beginning it was noticed that his actions appeared to be aimless, that he appeared to be always contented and happy, was always smiling. Soon observed delusions of wealth, also tremulousness of lips and tongue, and difficulty of speech.

Present condition. Paresis of facial muscles on the right side. Tremor of lips, tongue, and hands. Gait feeble. Can obtain no utterance from him. He appears to be entirely demented.

In this case there is the typical history, but the complete silence, and the absence of every facial expression, are unusual in this disease. We can only account for them by supposing complete dementia.—*Journal of Psychological Medicine.*

REPORT UPON A SPECIMEN OF XANTHIC OXIDE CALCULUS.

By W. W. KEEN, M. D., Surgeon to St. Mary's Hospital.
[Read December 6, 1882.]

I desire to present for Dr. George L. Porter, of Bridgeport, Conn., a specimen of xanthic oxide calculus. It consists of one-half of a stone, an inch and a half long and an inch wide. This half is to be deposited in the Museum of the Jefferson Medical

College, the other half is in the Army Medical Museum, Washington, D.C.

So rare is this calculus that, including the present specimen, only eight have ever been described, and none of them so completely as Dr. Porter's. Moreover, this is the only specimen ever recognized and described by an American surgeon. Four of the specimens are British, two French, and one German. Marcet in 1877 described the first calculus of this kind which was recognized.

The present stone was passed spontaneously by a woman eighteen years old. Its clinical history presents nothing specially worthy of note, but its chemical constitution makes it very interesting. Xanthine or xanthic oxide is analogous to uric acid, having, however, one less equivalent of oxygen, and is the rarest of all calculi. In the *New England Medical Monthly* for May, 1882, Dr. Porter relates the case in full, with a drawing of the stone, and an analysis and comparison of the eight cases on record and some interesting remarks on xanthic oxide itself.

[After the reading of the preceding paper :—]

Dr. JOHN B. ROBERTS stated that in 1873, Dr. R. J. Levis operated for vesical calculus by lithotrity on a man. The patient, who was 69 years, was an inmate of the Pennsylvania Hospital. The fragments were examined by the late Dr. H. B. Hare, the well-known pathological chemist, and found to consist of xanthic oxide. The patient was discharged by request of his friends, while some of the stone still remained in the bladder, and passed from the surgeon's observation.

Dr. JAMES TYSON said that in connection with the case just reported by Dr. Keen, he desired to place on record a case which came under his own observation, of persistent cystin sediment in urine, concurrent with impacted oxalate of lime calculus. G. B. W., a very intelligent physician residing in one of the southern counties of Pennsylvania, and 45 years of age when he first saw him, was lithotomized in Baltimore when he was 28 years old, and a calculus of pure cystin removed. From that time he continued, according to his own account, to pass cystin daily. Early in January, 1879, a specimen of urine was sent to Dr. Tyson in which there was considerable pus and a proportionate amount of

albumen. In this specimen there was found no cystin, but in later specimens there were found large numbers of the characteristic crystals along with pus and albumen. A little later Dr. Tyson visited him at his home, and found him suffering greatly with extreme lumbar pain, attacks like which he had frequently had before, but the present one was of unusual duration, and had greatly prostrated him. There seemed every reason to believe that there was a calculus impacted somewhere between the left kidney and the bladder. His sufferings continued, and he was only relieved by death, which occurred on the 6th of March, 1879.

The following notes of the autopsy were received from Dr. Wm. B. Rowland of Rowlandsville, Md.: The post-mortem examination revealed calculus in the left ureter just ready to pass into the bladder. The calculus was the size of a large pea, and very rough. Just behind where the calculus was found in the ureter was a collection of pus, dipping down into the pelvis, which would soon have made its exit through the ischiatic foramen if life had been prolonged.

The left kidney was somewhat enlarged, and the right was not more than one-fifth the usual size, but apparently healthy. The bladder, stomach, and bowels were healthy. No mention was made by Dr. Rowland of the liver, which was presumably healthy, but there was found in the gall-bladder a calculus an inch long and half an inch in diameter throughout its length.

The calculus which is exhibited to the College presented none of the physical and chemical characters of cystic calculi, which are smooth and friable, but is evidently oxalate of lime. This is particularly interesting in view of the fact that a cystin calculus was removed by lithotomy seventeen years earlier, and that the patient so persistently passed cystin crystals up to the time of his death.

A NEW SYMPTOM IN CEREBRAL DISEASE.—“In certain morbid conditions,” says M. Parrot, “if one pinches the skin smartly, the pupil will be seen to dilate.” After detailing two series of cases (in one set of which this symptom was present and in the other absent), he considers the mode of production of

the symptom, and he arrives at the opinion that it is not the result of contraction of the radiating fibers through the influence of the sympathetic nerve—this would, in his opinion, be insufficient to overcome the antagonism of the constricting or circular fibers,—but that it results from vascular depletion of the iris owing to constriction of its vessels. In support of this view he reminds us of an observation of Kussmaul's, that the pupil dilates during inspiration and contracts during expiration. According to Parrot the following would be the order of events: irritation of the skin by the pinch, transfer of this irritation to the medullary center by the sensory nerves, its reflection thence to the vaso-constrictors of the iris, depletion of its vessels, dilatation of the pupil. An essential factor in the production of this symptom would be the retention of cutaneous sensibility. In the second series of cases, where this symptom was not present, cutaneous sensibility was nearly, if not quite, lost. He arrives at the following conclusions:—In certain affections of early infancy, with or without convulsions, with or without appreciable lesions of brain, the patient being in a state of persistent coma, if one pinches the skin, a momentary dilatation of the pupil to even two or three times its previous size is produced. Of these affections, those which are characterized by obvious lesion of the nerve-centers are tubercular meningitis, hæmorrhage into the pia mater, certain cases of chronic hydrocephalus, and, lastly, certain ill-defined conditions in which the volume of the brain encroaches upon the cranial capacity. On the other hand, in other morbid states, mostly without convulsions but with coma, the pupil much contracted undergoes no change even when one pinches the skin with sufficient force to produce movement of the face and limbs. In these patients sometimes there exists no appreciable lesion of the nerve centers; at other times there may be œdema or marked congestion; but in neither case is there any cerebral compression. So far, the only practical conclusion one can draw from this group of facts is the following: a child (affected or not with convulsions) who is comatose, and whose pupils do not dilate when the skin is pinched, is not suffering from meningitis or hæmorrhage into the pia mater, but death is imminent.—(*Revue de Médecine and Med. Times and Gaz.* Oct. 1882.)

Items.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE-HOSPITAL SERVICE, OCTOBER 1ST. TO DECEMBER 31ST. 1882.

BAILHACHE, P. H., Surgeon. Present detail continued until further orders, October 6, 1882. To proceed to Louisville, Ky., as inspector, October 13, 1882. Granted leave of sence for thirty days, November 10, 1882.

VANSANT, John, Surgeon. Granted leave of absence for twenty days, November 18, 1882.

HUTTON, W. H. H., Surgeon. To proceed to Louisville, Ky., and assume charge of the Service, October 7 and 14, 1882.

MILLER, T. W., Surgeon. To continue at present station until further orders, October 6, 1882.

WYMAN, Walter. To inspect keepers and crews of the Life Saving Service, October 5, 1882.

LONG, W. H., Surgeon. To proceed to Detroit, Mich., and assume charge of the Service, October 7 and 14, 1882.

MURRAY, R. D., Surgeon. Having returned from service in the yellow-fever epidemic in Texas, to report in person to the Surgeon General, M. H. S., December 4, 1882. Granted leave of absence until February 28, 1883, December 19, 1882.

FESSENDEN, C. S. D., Surgeon. To proceed to St. Louis, Mo., and assume charge of the Service, October 7, 1882.

PURVIANCE, George, Surgeon. To inspect keepers and crews of the Life Saving Service, October 21, 1882.

SAWTELLE, H. W., Surgeon. To proceed to New York, N. Y., and assume charge of the Service, October 7, 1882.

AUSTIN, H. W., Surgeon. To inspect keepers and crews of the Life Saving Service, October 5, 1882.

FISHER, J. C., Passed Assistant Surgeon. Present detail continued until further orders, October 6, 1882. To proceed to Alexandria, Va., as inspector, October 21, 1882.

HEATH, W. H., Passed Assistant Surgeon. Granted leave of absence for fourteen days, December 28, 1882.

PORTER, F. D., Passed Assistant Surgeon. To inspect keepers and crews of the Life Saving Service, October 5, 1882. To proceed to Evansville, Ind., for temporary duty, November 21, 1882. To proceed to Charleston, S. C., and assume charge of the Service, December 21, 1882.

O'CONNOR, F. J., Assistant Surgeon. To proceed to Norfolk, Va., for temporary duty, October 14, 1882. To rejoin his station (Detroit), November 4, 1882.

WHEELER, W. A., Assistant Surgeon. Relieved of duty at Charleston, S. C., and placed on waiting orders, December 22, 1882.

ARMSTRONG, S. T., Assistant Surgeon. To examine keepers and crews of the Life Saving Service, October 5, 1882.

BENNETT, P. H., Assistant Surgeon. To examine keepers and crews of the Life Saving Service, October 5, 1882.

AMES, R. P. M., Assistant Surgeon. Granted leave of absence for twenty-one days, November 23, 1882.

DEVAN, S. C., Assistant Surgeon. To examine keepers and crews of the Life Saving Service, October 13, 1882. To inspect unserviceable property at the San Francisco Marine Hospital, October 20, 1882.

KALLOCH, P. C., Assistant Surgeon. To inspect keepers and crews of the Life Saving Service, October 5, 1882.

CORRECTION.—Owing to an unfortunate error in the January number, the following selected articles appeared without proper credit to our exchanges in which they originally appeared :

“Locomotor Ataxia, Case,” by A. M. Carpenter, from the *Indiana Med. Reporter*.

"The Bradshawe Lecture," by Sir James Paget.

"Abdominal Section," by J. Ewing Mears, Philadelphia.

"Notes on Therapeutics," by R. L. MacDonnell, Montreal.

"Self-Limited Duration of Pulmonary Phthisis," by Austin Flint, N. Y.

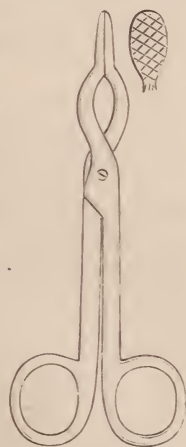
"Puerperal Fever," by John Lowe, Litchfield, Eng.

"Dry Cupping and Rest in Locomotor Ataxia," H. M. Lyman.

DEFLECTED SEPTUM NARIUM. — For the relief of this unpleasant deformity, after trying various other methods, I have lately practiced the following operation :

I make a crucial incision through the septum, one line of which is longitudinal, the other transverse. These incisions are made with the utmost obliquity practicable, so that the four quadrants imbricate upon one another, thus permitting them to easily override one another when the deflection is rectified.

The rectification may be effected with a pair of ordinary polypus forceps; but I have had constructed for this purpose a pair after the accompanying sketch.



After rectification, I insert into the heretofore occluded nostril a rubber tube of the required size, which is worn for two or three weeks.

MOSES GUNN.

TO MEDICAL SOCIETIES.—Secretaries of Medical Societies in the State of Illinois are requested to forward lists of the officers and members of such societies, with post-office addresses, to the Secretary of the State Board Health at Springfield. These lists are needed to facilitate the distribution of the publications of the Board and for other purposes.

CHICAGO MEDICAL COLLEGES.—The winter sessions of the various medical colleges will soon close. They have all had a winter of great prosperity, and the large classes demonstrate the importance of Chicago as a medical center.

CLINICS.

MONDAY.

Eye and Ear Infirmary—1.15 to 2.15 p. m., Otological, by Dr. Schaefer; 2.15 to 3.30 p. m., Ophthalmological, Dr. Holmes.
 Mercy Hospital—2 p. m., Medical, Profs. Hollister and Quine.
 Rush Medical College—3 p. m., Dermatological and Venereal, by Prof. Hyde.
 Woman's Medical College—2 p. m., Dermatological and Venereal, by Prof. Maynard.

TUESDAY.

Cook Co. Hospital—2 to 4 p. m., Medical and Surgical Clinics.
 Mercy Hospital—2 p. m., Surgical Clinic, by Prof. Andrews.
 Woman's Medical College—10 a. m., Prof. Ingals.

WEDNESDAY.

Chicago Medical College—2 p. m., Eye and Ear, by Prof. Jones.
 Rush Medical College—2 p. m., Medical by Prof. Bridge; 3 p. m., Ophthalmological and Otological, by Prof. Holmes; 3 to 4 p. m., Diseases of the Chest, by Prof. Ross.
 Woman's Medical College—2 p. m., Eye and Ear, by Dr. W. T. Montgomery; 3 p. m., Diseases of Children, by Prof. Chas. W. Earle.
 Eye and Ear Infirmary—2.30 p. m., Dr. E. J. Gardiner.

THURSDAY.

Chicago Medical College—2 p. m., Gynæcological, Prof. Dudley.
 Rush Medical College—2 p. m., Diseases of Children, by Prof. Knox; 3 p. m., Diseases of the Nervous System, by Prof. Lyman.
 Eye and Ear Infirmary—1.15 to 2.25 p. m., Otological, by Dr. Schaefer; 2.15 to 3.30, p. m., Ophthalmological, Dr. Holmes.
 Woman's Medical College—3 p. m., Surgical, by Prof. Owens.
 College of Physicians and Surgeons—2 p. m., Medical, by Prof. S. A. McWilliams; 3 p. m., Surgical, by Prof. R. L. Rea.

FRIDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
 Mercy Hospital—2 p. m., Medical, by Prof. Davis.

SATURDAY.

Rush Medical College—2 p. m., Surgical, by Prof. Gunn.
 Mercy Hospital—2 p. m., Surgical Clinic, by Prof. Andrews.
 Chicago Medical College—3 p. m., Neurological, Prof. Jewell.
 Woman's Medical College—2 p. m., Gynæcological, by Prof. T. D. Fitch.
 College of Physicians and Surgeons—2 p. m., Diseases of the Chest, by Prof. S. A. McWilliams; 3 p. m., Gynæcological, by Prof. A. Reeves Jackson.
 Daily Clinics, from 2 to 4 p. m., at the Central Free Dispensary, at the South Side Dispensary and at the West Side Dispensary.

THE
CHICAGO MEDICAL
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VOL. XLVI.—MARCH, 1883.—No. 3.

Original Communications.

ARTICLE I.

THE PSEUDO-BACILLUS TUBERCULOSIS. By H. D. SCHMIDT, M.D., Pathologist to the Charity Hospital of New Orleans. (Read before the New Orleans Pathological Society.)

In the December number, 1882, of this journal, I published a paper, containing the most prominent points of the results which I had obtained from a series of microscopical investigations into the nature of the so-called bacillus tuberculosis, of Koch. These investigations, as will be remembered, ended in the discovery of minute fat crystals, contained in certain cells of the miliary tubercle, or tuberculous mass, as well as in the expectoration of tuberculous patients.

In this paper, I also mentioned a discovery which I had made, concerning the formation of the same form of crystals in sections of fattily infiltrated or degenerated tissues, when treated with a solution of caustic potassa, or any other alkali; but, for the want

of time, I then forebore to enlarge upon this observation. Having, since the above treatise was written, continued my investigations on the crystalline pseudo-bacillus tuberculosis, as well as on the artificial formation of these crystals in fattily infiltrated tissues, I shall now furnish additional details, which may serve to elucidate more fully the facts already published. And, in order to obtain a basis for our discussion upon the formation of fat crystals in animal tissues, we shall, of course, only as far as our subject demands, first refer to some of the facts, observed under the microscope, and relating to the formation of these crystals outside of the tissues, as, for instance, in tallow, or pure human fat.

Before, however, entering upon the discussion of the artificial production of these crystals, a few brief remarks regarding the temperature at which they may be formed, will not be out of place. When, during the month of May or June, of the preceding year, I first discovered that fat crystals would form upon the sections of fattily infiltrated organs, the temperature in this city was quite high, probably ranging from 85° to 90° F., or even more; and, therefore, by treating the sections with a 30 per cent. solution of caustic potassa, I found that the crystals had formed in about twenty-four hours. In a thin film of tallow, spread upon a glass slide and treated with the same solution, I observed a number of single crystals of stearic acid appearing in even as short a time as half an hour, though, for certain reasons, to be mentioned directly, I am now inclined to think that they had previously existed in the tallow, and were simply rendered visible by the potash solution. In sections of a tuberculous lung, treated with this solution, new crystals appeared in the space of two or three days. But, as during the remaining part of the summer, my principal object in view was still to positively determine the crystalline nature of the rod and needle-shaped bodies, formed in the tuberculous cells during life, I neglected to take particular notice of the exact time when the artificially produced crystals would make their appearance in the tissues. Nevertheless, from the numerous sections, which I re-examined from time to time, after being treated with solutions of different alkalies, and of different strengths, I observed that the length of time,

required for the artificial formation of these crystals, was proportionate to the strength, not only of the solution, but also of the alkali itself; and, furthermore, that the stronger the alkali, the more perfect and extensive would be the crystallization. In the same manner does the length of time required for the crystallization depend upon the temperature of the surrounding atmosphere, for the lower the temperature, the longer will be the time necessary for the formation of the crystals. With these preliminary remarks, we may now proceed to the consideration of the artificial production of fat crystals, and shall commence with those found in tallow, or human fat, by the action of caustic potassa.

The easiest way to produce these crystals is to spread a thin film of tallow, about one-half an inch in diameter, upon a glass slide, with a clean piece of tallow candle, and, after the application of a few drops of a 30 per cent. solution of caustic potassa, to put on the cover-glass. Then the surplus of the solution is removed by blotting paper, the preparation hermetically closed with Bell's cement, or Canada balsam, and put aside. After one or more days, according to the height of the temperature, minute crystals of stearic acid will successively appear in the film of tallow. Generally, these crystals appear in the form of delicate double-pointed needles, which, by the overlapping of their points, arrange themselves to form filaments, and these again to form branches resembling those of our native pine trees. These branches, finally, represent the components of the most beautiful stellate figures, a portion of one of which is found represented in Fig. 1. But, frequently also, the crystals are met with in the form of minute rods, either single or arranged in small isolated branches, as seen in Fig. 2.

Although I have thus far observed and studied, to a certain extent, the different phases of crystallization through which a patch of fat passes, until it is converted into the above mentioned figures, I have, as yet, not had sufficient time to inquire into the special laws, which determine the particular form of the crystals, or of the different figures formed by them. Besides, the forms which a large patch of fat assumes, while passing through the different phases of crystallization, are quite variable, so that a thorough investigation into the laws governing them

could only be made with a considerable sacrifice of time, which I could not make just now. But, as my object of discussing the modes of crystallization of fat, in this place, is to better elucidate the crystalline nature of those minute rods and needles, contained in certain tuberculous cells, I may add that when large neighboring patches of fat pass into the state of crystallization, they generally first approach one another, and unite sufficiently to form a body, the outlines of which resemble those starlike figures ; these, in proportion to the advancing crystallizing process, gradually assume a more definite shape. Upon this body a general mapping out of the branches and needles is then observed, which, as the crystallization advances, becomes more and more distinct, until the individual needles are, finally, completed. Sometimes the body consists of a considerable number of plates, or scales, of various angular forms, arranged in different manners, which are eventually converted into the minute needles or rods. In the case of small patches of fat, or of fat globules, the rods or needles grow directly out of them ; very small fat globules are converted, according to their size, into only one or a few rods. This mode of formation of the rods and needles is, as we shall see hereafter, observed in the sections of tuberculous tissues, some time after having been treated with caustic potassa. Sometimes, the fat crystallizes into a prismatic, or otherwise angular mass, composed of the minute rods.

If a film of tallow upon a glass slide is treated with a solution of sodium hydroxide—of the strength as first prepared by the decomposition of a solution of sodium carbonate with calcium hydroxide—numerous single stearic-acid crystals are produced, which in every detail resemble the pseudo-bacilli tuberculosis ; though, here and there, branches, as above described, are also observed to form. The same crystals will be formed, when a film of tallow is treated with *aqua ammoniæ fortior* ; many of them appear here in the form of minute rods, arising from oblong patches of fat, which by mutual communication form a wide-meshed network.

If a film of human fat be spread upon a glass-slide by rubbing the latter with a small piece of adipose tissue, no crystals will form by the action of the potash-solution ; but, if small frag-

ments of the tissue itself are left upon the slide, delicate sword or needle-shaped crystals of margaric acid will appear, forming the same branches and stellate figures as above described in connection with the tallow; among these are also observed plates and prismatic masses.

When the above mentioned crystals, formed in the tallow or human fat, are examined under the microscope with a sufficiently high power,—from 300 to 500 diameters,—it will be observed that they invariably present a very fine, delicate outline on one side, and a very dark and heavy one on the other; these outlines, like those of crystals in general, are very sharply and distinctly drawn. Those stellate figures, as well as single branches, or larger or smaller prismatic masses, formed by these minute fat crystals, present a very brilliant appearance when examined with the polariscope. Upon a dark field they generally appear of a bright yellow, a blue, and a red color. The yellow, however, always predominates; for, though some of the crystalline branches may appear blue, or red, the greater part of the figure still presents the yellow. In changing the field from the dark to the light, by the turning of one of the prisms, these colours, of course, will gradually disappear. Isolated needles, or rods present upon the dark field only the brilliant yellow. Examined with chromatic polarization the crystals exhibit the usual complementary colors. When any group of these crystals is examined with very oblique light, obtained either by means of an Abram's achromatic prism, or by a Power and Lealand's homogeneous achromatic coondenser, they will exhibit the same colors, as upon the dark field of the polariscope, only in a lesser degree.

Having thus briefly discussed the formation of fat crystals, produced by the action of an alkali outside of the tissues, and their behavior when examined with polarized or very oblique light, we may now proceed to consider the formation of these crystals in fattily infiltrated tissues, treated not only with alkalis, but also with certain acids.

Although fat crystals will form in any tissue, affected with fatty infiltration, or degeneration, I have, for the sake of uniformity, made use in these experiments of sections taken from the fatty livers of fatal cases of yellow fever. If, now, a thin

section of such a liver is treated with a 30 per cent., or weaker solution of caustic potassa, minute needle or rod-shaped crystals, either single, or forming branches (Fig. 3), or prismatic bodies, will appear in the section in a few days. The individual crystals, as well as the branches they form, closely resemble those formed in the film of tallow; it may therefore be supposed that they represent stearic acid. If such a section be treated with a solution of caustic soda, the same crystals will be observed to appear, only differing slightly in their arrangement in forming branches (Fig. 4). In the same manner are these crystals observed to form, if the section be treated with *aqua ammoniæ fortior*. However, the formation of fat crystals in these sections does not only take place by the action of the above mentioned alkalies, but, moreover, if the sections are treated with formic or glacial acetic acid. When examined upon the dark field of the polariscope they appear in the same brilliant light and colors as the crystals, artificially formed in the tallow by the action of alkalies; and if examined with plain, transmitted light, it will be found that the individual minute crystals resemble in every respect the pseudo-bacilli tuberculosis.

The above described phenomena, relating to the formation of crystals in fat, either pure, such as tallow, or contained in tissues affected with fatty infiltration, or degeneration, through the action of alkalies, or that of formic, or acetic acids, cannot but appear contrary to the known chemical laws, according to which the fat should become saponified by the alkali, without the setting free of its acids. We may, therefore, presume that the liberation of the latter is effected by a combined action of the alkali and the tissues. All alkaline solutions, as we know, affect the protoplasm of most tissues, especially that of the cells; and, if the solution is sufficiently concentrated, it will eventually entirely destroy the protoplasm. The alteration, or final destruction of the tissues, however, can only take place by a chemical combination of the alkali with their albuminous constituents. To explain the phenomenon under consideration, therefore, we may presume that in virtue of this combination, or by a body resulting from it, the glycerine is abstracted from the neighboring fat, and the acids set free to crystalize. The formic and acetic acids affect the

protoplasm, especially that of the cells, in a manner similar to the action of the alkalies in a lesser degree; and, very probably, also form a combination with its albumen, leading to the same final results of liberating the acids of the fat in the vicinity. In the case of the tallow, I presume, that though this is generally regarded as pure fat, it still contains some albuminous substances, derived from the tissues from which it was extracted, and with which the alkali would enter into combination; this supposition gains in strength from the fact, above stated, of no crystals being formed in human fat, rubbed upon the slide with a fragment of adipose tissue, and treated with an alkaline solution.

The above explanation regarding the process of the formation of fat crystals in fattily infiltrated tissues by the action of alkaline solutions, of course, rests only upon a mere supposition, to which I was led by observing that these crystals never appeared, before the protoplasm of the tissues was almost entirely destroyed; or, at any rate, before the tissues had completely lost their morphological characters. To render a more detailed and rational explanation of the apparently contradictory phenomena witnessed in this process, must be left to the special chemist.

To the preceding discussion on the artificial production of fat crystals in tallow, or in sections of fattily infiltrated tissues in general, I have now to add some special remarks, concerning the appearance of these crystals in sections of tuberculous tissue, some time after being mounted in a solution of caustic potassa. If such a section be treated with a 30 per cent. solution of this alkali, and examined under the microscope, the first change observed is a general clearing up of the component histological elements, rendering the whole section more transparent. And, as the transparency of the section increases, a number of certain cells, filled with larger or smaller fat globules, associated with, or without black pigment granules, gradually make their appearance. With the increasing action of the alkali on the protoplasm of these cells, they, also, are rendered clearer and clearer, until, finally, their contents are exposed to a full view. It will then be seen that, while all of these cells contain fat globules or pigment, only a number of them may contain the minute fat crystals, or pseudo-bacilli, which I have described and represented

in Figs. 1 and 2 of my late paper on this subject. But, as the action of the alkali upon the tissues is still going on, the outlines of the latter are generally lost, until, with the exception of the alveolar elastic tissue framework, they are converted into a shapeless granular substance. While, however, the protoplasm of the tissues, particularly that of the cells, is thus altered, or even destroyed, by the caustic action of the alkali, the fat globules, pigment, and pseudo-bacilli, contained in those peculiar cells, above mentioned, remain unaffected, and are exposed to a better view in the empty fields, mapped out by the elastic-tissue framework. In a section thus prepared, the character of the minute rods and spindles, placed between the fat globules, may be studied to the greatest advantage. The fat globules, left by these cells, whether associated with pseudo-bacilli or not, may always be recognized by their grouping representing the outlines of the cells in which they were formed; very frequently, also, they are associated with pigment. Besides these groups of fat globules, however, a great number of larger or smaller isolated fat globules are now observed over the field of the microscope; these are derived from the fat contained in the remaining more numerous cells of the miliary tubercles, which, also, was set free by the action of the alkali upon the protoplasm of the latter. If, now, the section be examined with the assistance of the polariscope, it will be found that *the pseudo-bacilli, and many of the minute fat globules, between which they lie, appear most brilliantly illuminated, as soon as the prisms of the instrument are crossed, and the field is rendered dark*—while those numerous isolated fat globules remain dark. In fact, the minute rods and spindles polarize the light in such a degree as to remove every doubt that might still exist in regard to their crystalline nature. *True bacilli, such as B. ulna and B. subtilis, as well as all other bacteria, as I know from experience, do not possess double refraction, but remain dark upon the dark field of the polariscope.* If the minute rods, spindles and needles, contained in the cells are very numerous, such as represented in Figs. 7 and 8 of this paper, they will, exactly like the fatty acid crystals found in tallow, exhibit the complementary colors, namely, bright yellow, blue and red. But, it is not alone these minute crystalline

rods and spindles that appear brightly illuminated upon the dark field of the polariscope, for, those groups of minute fat globules not associated with pseudo-bacilli, also show the beginning of crystallization by emitting a feeble light which distinctly marks their outlines: very frequently, minute luminous points are observed upon the feebly illuminated area of the group, indicating an advanced phase of crystallization in some of the minute fat globules. The crystallization of the fat into those minute rod, spindle and needle-shaped bodies (pseudo-bacilli), contained in the fattily degenerated cells under discussion, of course, took place during the life of the patient, while the potash solution applied to the section, thus far only served to render them visible by destroying the protoplasm of the cells. But, if now the section be left exposed to the action of the alkali, the fat, set free by the latter in the form of isolated globules, and seen distributed throughout the section, will undergo an artificial crystallization, such as we witnessed in the sections of fattily infiltrated yellow-fever liver, above described. Thus, in the course of several days, if the temperature of the surrounding atmosphere be sufficiently high, a number of minute needle-shaped crystals, arising from the smaller fat globules, will appear distributed over the section, as well as over the rest of the field. These crystals closely resemble, in all their characters, the pseudo-bacilli. Fig. 5 represents a small portion of such a section, several weeks after it had been treated with a potash solution, and when the protoplasm of the cells was destroyed by the action of the alkali. The remains of two of these cells containing the pseudo-bacilli, and of another containing none of them, are seen in the upper part of the drawing; while, scattered over the rest of the section, a number of single minute crystals, artificially formed after the mounting of the section, may be observed.

Very frequently, however, smaller or larger groups of these minute crystals will be observed to arise from the larger fat globules in such a section (Fig. 6 *a* and *b*); in these cases, the process of crystallization generally advances until all the fat of the globule has been converted into the minute crystals. The size of the latter appears to depend, to a certain extent, upon the size of the fat globule; for, if the latter be very small, the

crystal will be below the average size. In this manner, those very minute rod-shaped pseudo-bacilli are derived from the minute fat globules associated with them in the respective fattily degenerated cells. Sometimes, a group of crystals arises in mass from a patch of fat (Fig. 6, *c*); or a large fat globule is converted into a cluster of minute, closely packed, rod-shaped crystals, such as seen at *d* of the same figure. If the quantity of fat in such a section be very abundant, large patches of fat, formed by the fusion of a number of large fat globules, will frequently be met with, from which large figures, composed of scales or needles, may be seen to arise. Examined upon the dark field of the polariscope, these crystals exhibit the same complementary colors, as those described before.

Although I have already described, to a certain extent, in my previous paper on this subject, those fattily degenerated cells containing the minute fat crystals, a few additional remarks on their nature and probable origin would not be improper. When a section of a miliary tubercle is examined, while clearing up by the action of the alkaline solution, or of acetic acid, it will be noticed that not all the cells of the tubercle are undergoing fatty degeneration. On the contrary, especially if the tubercle be small and still isolated, only a few cells, filled with fat globules, may be met with, enclosed in the general mass of tubercular cells of one or the other alveolus. While, however, the great majority of tubercular cells present a number of irregular forms, produced by mutual pressure, these fattily degenerated cells may be easily distinguished, not only by their round, or oval form, but moreover, by their opaque, brownish or blackish appearance, caused by the refractive property of the fat globules within; or, also, by the pigment, or the fat crystals which many of them contain. While, however, cells filled with fat globules are met with in tubercles of almost every case of tuberculosis, they do not always contain pigment, or fat-crystals. In fact, as I have before stated, I have met with some cases of tuberculosis, in which I failed to detect any fat crystals in the tuberculous portions of the lungs; while in other cases, great numbers of these fattily degenerated cells were met with, almost completely filled with pseudo-bacilli, minute fat globules and pigment. Some of these

cells were very large, while others were comparatively small (Fig. 7). Among these were also observed a number of cells, almost entirely black from the quantity of pigment and minute fat globules which they contained. They were generally found in those tuberculous alveoli bordering on the highly congested, non-tuberculous portions of the lung. Very often, cells, filled with pseudo-bacilli, are observed to adhere to the walls of alveoli, which as yet are not entirely filled up by the proliferating tubercle cells. I am, therefore, inclined to regard them as epithelial cells of the alveoli, which, undergoing fatty degeneration, are incapable of multiplying, and thus become surrounded by the proliferating neoplastic cells during the development of the tubercle. This view is strengthened by the fact that, in many instances, they appear in small groups, lying loose, or simply buried in the tubercular mass; though this view needs to be confirmed by further and more positive observations. In the expectoration of phthisical patients, cells, in every way identical with those above described, are very often met with; they are generally filled with fat globules, though, not unfrequently, they also contain pigment and pseudo-bacilli. In these cases, the expectoration also contains a number of free rod-shaped crystals.

In studying the pseudo-bacilli in sections of tuberculous lung, it is, of course, desirable to have them permanently mounted, both for future study and reference. This, however, is impossible as long as the sections are saturated with the alkaline solution, which not only destroys almost the whole tissue of the section, but, moreover, eventually gives rise to the artificial formation of additional fat-crystals. To mount the sections permanently, therefore, they must be free from every trace of the alkali which they contain. The best method of accomplishing this purpose I have found to be as follows: In order to completely remove the alcohol contained in the sections from the mixture of alcohol and water in which they were kept, they are first put into filtered water, from which they are transferred to a 30 per cent. solution of caustic potassa. In this they are kept for about twenty minutes, when they are again transferred to pure water, in order to get rid of the alkali. From the water they are, by making them float upon a spatula, transferred to the slides, from which the sur-

plus is allowed to run off, while the rest of this fluid is carefully removed up to the margins of the sections, with a camel's-hair brush. Then, two or three drops of the 30 per cent. solution of potassa are put upon each section, and left for about ten or fifteen minutes, at the end of which time the action of the alkali will have rendered the sections sufficiently clear to allow the study of the pseudo-bacilli. Now, the alkali must be removed by repeatedly washing the sections upon their slides with fresh water, until the test-paper shows no alkaline reaction. Then, the water is again entirely removed from the slides up to the margins of the sections, about three drops of a mixture of one part of filtered glycerine and two parts of water put upon each of the latter, and the cover-glasses applied. The preparations may be hermetically sealed with Bell's cement or Canada balsam.

For certain information, relating to the pseudo-bacillus tuberculosis, which I received, after the preceeding pages of this paper were written, I must now slightly deviate from the regular course of our discussion, in order to consider another part of the subject. A few weeks ago, in order to show the correctness of my statements regarding the crystalline nature of the rod-like bodies which I had met with in certain portions of tuberculous lungs, I sent to several medical friends of Chicago and Philadelphia, a number of ready prepared and mounted, as well as unmounted, sections of tuberculous lung tissue, with the special direction of examining them with the aid of the polariscope. Now, the result of these examinations, which I learned several days ago, fully confirms the existence of the pseudo-bacillus tuberculosis which I discovered, but excludes its identity with the bacillus tuberculosis of Koch, which I, accordingly, failed to make visible in the sections of the tuberculous lung. My next object in view, therefore, must be to ascertain the particular cause of my failure, which, as I had very closely followed in the staining of my sections the directions given for the methods of Koch, Ehrlich, and Gibbes, could only be found in the quality of the material which I had used. That this may have been the real cause, I learned, a few days ago, by the meeting of an expert in the staining of tuberculous sputa. This gentleman, Mr. H. Woltmann, of Chicago, had been directed by Dr. Gradle, of the same city, to pay me a

visit, on his way to Texas, for the purpose of showing me the veritable bacillus tuberculosis of Koch. Although the time, which this gentleman had to spare was rather short for a thorough examination of the subject, I became, nevertheless, convinced of his familiarity with the staining of sputa by the beautiful preparations he showed me, besides having the pleasure of spending some hours of the afternoon and evening with him in the staining of some of my sections and the examining of the so-called bacillus tuberculosis in his preparations of sputa. Now, as regards the material which I had formerly used in my attempts of staining the parasite, he at once perceived that the aniline oil was impure, and consequently unfit for use; for, while it was of a brown color, it, moreover, showed an acid reaction upon test paper. Fortunately he had with him the aniline oil which he had used for his staining; this was perfectly clear, but, without his previous knowledge, also showed an acid reaction upon the test paper; though it had been alkaline when he first obtained it. Nevertheless, as there was no alkaline aniline oil at hand, he showed me with this his method of staining, which, in substance, is a combination of those of Ehrlich and Gibbes, and which, on the whole, I had closely followed myself. The principal deviation which he makes from these methods, consists in using methyl-blue as the ground color, instead of chrysoidin, for the magenta-stained parasites. For the examination of his preparations of sputa, he had with him one of Zeiss' famous illuminators, which we managed to apply to my Zentmayer's "Grand American" microscopical stand. With this illumination he showed me through my Tolles' $\frac{1}{10}$ dry objective, which possesses a very fine definition, upon the blue ground of the sputa a number of very minute filamentous bodies, appearing thoroughly stained red by the magenta. Though Mr. Woltmann had hitherto looked upon these bodies as representing minute rods, I perceived, at once, the granular appearance of these filaments, which was rendered still more distinct by using a higher eye-piece. Upon my asking for the authority upon which Mr. Woltmann had regarded these filamentous bodies as the veritable bacilli tuberculosis of Koch, he named Dr. Belfield of Chicago, a gentleman who had studied Koch's bacillus in Germany.

Let us now consider a little closer these bodies in Mr. Woltmann's preparation of sputa, which is now by his kindness in my possession. When this gentleman had left, I subjected these filaments to a still closer examination by the use of my Powell and Lealand's homogeneous achromatic condenser, which though not furnishing the intense light obtained by the illuminating apparatus of Zeiss, nevertheless illuminates the object quite sufficiently for an accurate examination. On the contrary, the less intense light, obtained by Powell and Lealand's condenser, is much better suited for the study of the form of these minute bodies than the brilliant illumination obtained by Zeiss' apparatus. This examination still more distinctly showed me that these minute filaments were, in proportion to the difference in the length, composed of from two to six distinct granules; and that, besides, a number of single granules could be seen distributed among them. Though the majority of these filaments were straight, a certain number of them appeared curved. The diameter of the granules composing them I found to be $\frac{1}{1400}$ mill.; while the average length of the filaments is from four to five granules. There remains no doubt that these organisms are identical with those which Gibbes stained and examined in sputa, and which he found to represent rows of spherical bodies (*London Lancet*, August 5, 1882). Like him, I found that they may be well seen with an ordinary objective, such as Bausch and Lomb's, or Zentmayer's $\frac{1}{5}$ student objectives; even the granular character of the filaments may be distinguished by these objectives.

The question may now justly be asked, whether these perfectly stained granular filaments, contained in the sputa, prepared and exhibited to me by Mr. Woltmann, are in reality identical with the bacilli tuberculosis of Koch. Any one familiar with the special character of a bacillus, and particularly with Koch's description of the bacillus tuberculosis, cannot but answer this question in the negative. Bacilli represent minute straight rods with blunt, almost square, extremities; and as such Koch has described the organisms which he discovered in tuberculous lungs. Neither can it be said that the granules, of which the filaments contained in the Mr. Woltmann's preparations of sputa are composed, might represent the spores of the bacillus tuberculosis;

for, if these were the spores, we might properly ask, where is the body of the organism? Besides, Koch describes the spores of his bacillus as being oval in form, from two to four in number, and distributed over the whole length of the rod at equal distances. From what I know by my own observations upon the spores of bacillus subtilis, the body of the organism is not annihilated by the setting free of the spores. Therefore, we must conclude that these granular filaments do not represent Koch's bacillus tuberculosis, though they evidently possess the property characteristic of this bacillus, of retaining the particular coloring material which they first absorbed, against another offered to them subsequently. This point, though at present left unexplained, will certainly be cleared up in the end. But the organisms themselves appear to represent sphero-bacteria. I doubt not, but that in many instances these organisms have been stained and passed for Koch's bacilli tuberculosis. They certainly do not represent true bacilli; and I may safely assert that my pseudo-bacilli tuberculosis possess more of the morphological characters of true bacilli than these filaments; particularly, when some of the minute fat-globules are observed to adhere to one or the other crystalline rod which would make the whole resemble a spore-producing bacillus.

From that I have learned from medical journals, hitherto, the examinations made for the detection of the bacillus tuberculosis, were chiefly confined to sputa, for the reason that this matter can be more easily obtained than a tuberculous lung. I, for my part, as I have said before, attach no significance to the presence of micro organisms in the expectoration of phthisical patients, but am the more anxious to behold them in the tissues of the lungs, and in the very place where they are said to give rise to the disease in question. And though I have thus far failed to detect this bacillus in the sections of lung which I stained, I shall certainly take up the subject again as soon as I shall receive the proper material for the staining, and shall not rest until I shall have either satisfied myself as to the existence of this pretended parasite, or, at least have thrown some light upon the different forms under which it appears to different observers.

It is a singular coincidence that my pseudo-bacillus is specially met with in some of the same localities of the lungs which Koch

has assigned to his genuine bacillus tuberculosis, as, for instance, along the margin of the tubercles. In a case of miliary tubercles of no great extent, I met along the peripheries of the single miliary tubercles crystalline rods, as small as the stained filaments in Mr. Woltmann's preparation of sputa, and which, at any time, might have passed for true bacilli. But, as these crystals are not met with in all fattily degenerated cells of the tubercles, and, moreover, not even in all tuberculous portions of the lungs of different cases, it may be presumed that they are formed only under certain conditions of the particular part in which they are found, or, perhaps, of the whole individual. I have, as yet, not had sufficient leisure to direct my attention to this point, but shall do so in future. Like the true bacillus tuberculosis of Koch, the pseudo-bacillus, also, together with the fattily degenerated cells, with or without pigment, when found in the expectoration of the patient, may prove valuable in the diagnosis of the case; as their presence must certainly indicate grave lesions in the lungs. The particular quantity of fat, found in the expectoration of the patient, and which may be determined by treating it with the solution of caustic potassa, also, may be of service in the diagnosis, as it will indicate the grade of fatty degeneration.

EXPLANATION OF ILLUSTRATIONS.

FIG. 1.—Portion of a comparatively large stellate mass of crystals of stearic acid, formed in a film of tallow, treated with a 30 per cent. solution of caustic potassa. The individual crystals, of which the branches of the mass are composed, appear in the form of needles.

FIG. 2.—Branches, formed by minute rod-shaped crystals of stearic acid, met with in the same preparation.

FIG. 3.—Fat-crystals, formed by the action of a 30 per cent. solution of caustic potassa upon the surface of a thin microscopical section of yellow-fever liver affected with fatty infiltrations.

FIG. 4.—Fat-crystals, formed by the action of a solution of caustic soda upon the surface of a section of the same liver; in *a* the crystals are lancet-shaped, in *b* rod-shaped; in these figures a few patches of fat, from which the crystals arise, are still seen.

FIG. 5.—Small portion of a section of miliary tubercle, several weeks after having been mounted in a solution of caustic potassa, when the protoplasm has been rendered nearly invisible. In this section the remains of two of those cells, containing the fat crystals (pseudo-bacilli tuberculosis), together with the fat globules left from another such cell without crystals,

1



2



3



a



4

b

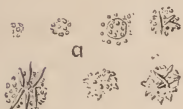


5



6

a



b



a



c



d



8



a



b



may be still observed in the upper part of the drawing; while, further below, a number of single needle-shaped crystals are seen scattered throughout the section. The latter were artificially formed, some time after the mounting of the section.

FIG. 6.—Fat-crystals, formed by the action of the potash solution in another section of tuberculous lung, some time after its mounting; *a* represents the crystals while arising from the fat-globules; *b*, different groups of the crystals after the entire consumption of the fat; *c*, the crystals arising in mass from the fat-patches; *d*, large fat globules, entirely converted into minute rod and needle-shaped crystals.

FIG. 7.—Large cells, met with in a section of the lung from a case of pulmonary phthisis (cheesy pneumonia); they are nearly filled with pseudo-bacilli tuberculosis, minute fat-globules and pigment granules; *a*, group of unbroken cells; *b*, a large cell crushed by pressure made upon the cover glass, in order to expose the crystals to full view.

FIG. 8.—One of these cells almost completely filled with the crystals which are arranged parallelly.

ARTICLE II.

THOUGHTS SUGGESTED BY THE DEATH OF RICHARD WAGNER.

By DR. JAMES I. TUCKER, Chicago.

On the second étage of the Palais Vendremint in the city of Venice, on the 14th inst., Richard Wagner, the great composer, died at the age of seventy. He had long been a sufferer from cardiac disease, the exact nature of which the dispatches do not state. On Tuesday he ordered his gondola for 3 o'clock, intending to take his customary promenade on the Grand Canal. As he was about to leave he was attacked by "a fit of asthma." He murmured, "I feel very bad," became unconscious, and at 4 o'clock died, surrounded by his wife, his four daughters and his favorite son, Siegfried. Thus ended the eventful career of him, who by genius, application, resolution and perseverance had become doubtless the greatest composer that ever lived; greatest not in the intensity and originality of his genius, but in that he took up the lyric drama at the zenith of its evolution and carried it forward to a point so much higher that centuries will probably elapse before a greater than he, in the light of future science, will venture to undertake a similar task; when what is now the

Music of the Future shall have become a thing of the past. The peer of Beethoven he had the massive Beethoven foundation as an inheritance upon which to erect his colossal superstructure. The great movement inaugurated by Beethoven expanded into the Wagnerian opera, a complete lyric structure in which the correlation of the Fine Arts was recognized and made the cornerstone, a structure in which there was no disproportion or discord, but wherein music, poetry, painting, action and oratory were one. "There is poetry," wrote Goethe, "there is painting, there is music and song, and there is the wit of representation. When all these arts and charms of youth and beauty shall work together upon the same evening and at the same degree of excellence, there will be a feast with which no other can be compared." Wagner accomplished this, and herein lies his greatness. But he could not be simply a musician, or a painter, or an actor, or an orator; he had to be all in one, and had he not lived when Science had pushed itself forward to the foreground he could not have achieved what he has. Like the physician, he pressed all the collateral science into service. It was necessary to understand the law of the correlation and conservation of forces, and of vibratory motion, together with the laws of light and sound. He had to drink deep of the scientific nectar and feed on the scientific ambrosia, and be fully swayed by the scientific bias.

He lived at a time when society, government, the church and medicine had been modified by science. He saw, too, that there are many thoughts and feelings which music can, but which language is wholly inadequate to express. With music conceived as simply a tickler of the emotions, he had no sympathy; it was only after he had studied the exact science of counterpoint, that he recognized in music a field for the highest intellectual exercise. The days of emotional music, as well as emotional preaching, are fast dying away, and soon physicians will cease to classify music as basilar, but perceive that it is in the highest degree cerebral—cease to associate it with the passions, but perceive in it the light of the most exalted reason. If it had not been for the scientific bias, Shakspeare and Gœthe and Lessing could never have written; without it Wagner could never have composed. In the choice of themes, too, Wagner was great, for

he selected the classic myths in which he perceived the deep significance underlying, fundamental thoughts constituting a law of the human mind. But while Wagner clearly perceived the correlation of the fine arts, and that harmony was the connecting link between them, it is doubtful whether he knew enough of the human organism to include medicine among them. It is possible that he was so much occupied with the branches of fine art, which had a special bearing on the development of the lyric drama that even in his criticisms, he could give no attention to medicine as a fine art, though from the quality of his mind we would be led to suppose that he would be among the first who would be able to comprehend a truth so evident to the physician. But when we consider how other artists of eminence have failed to recognize the relation of medicine to the fine arts, it may be that Wagner also failed to recognize it, and after all, it would not be surprising when we think that until very recently the harmony of the human body was ill-understood, because our knowledge of the mechanism of the nervous system has but just emerged from its infancy. Heinrich Rolfhs, however, does not hesitate to sharply criticise August von Eye for having failed to include medicine among the fine arts; and he is right, for it is evident to the more advanced medical mind, which perceives the law of harmony operating in the human organism, and that therapeutics has but a single aim and that to restore harmony when disturbed, that medicine is not only one of the fine arts, but the finest among them, because it has to do with human life.

ARTICLE III.

SCARLET FEVER IN ONE FAMILY. By ADDISON H. FOSTER, M.D.

The last of September, 1882, a child A, aged 11, had a mild throat attack with some fever, so slight I was not called.

October 11, child B, aged 6, became feverish with sore throat and furred tongue. On the 13th, a scattered, coarse and slightly papular eruption appeared, and by the 15th a well-marked, well-

diffused characteristic scarlet fever rash was developed, and remained a full week, with high fever and coated tonsils.

October 15, child C, aged 9, became feverish, with furred tongue and cankered tonsils, and was quite sick for three days, without any eruption whatever.

October 22, child D, aged 2, was taken like child C, and was sick for three days without any eruption.

November 6, or fifteen days later, child E, aged 4, was taken like the two preceding, quite as severely for three days, but with no eruption, and six days later, November 12, child F, aged 13, had a similar attack, but milder, with no eruption.

Seven days later, on November 19, or thirty-seven days after his first attack, child B had a second attack with less fever and sore throat, but with as well-defined and general scarlet fever eruption as before, which remained about five days.

Twelve days later, on December 1, the child C, aged 9, was taken with fever, sore throat, and well-marked scarlet fever rash, and was sick in bed for a week.

Fourteen days later, on December 15, the child D, aged 2, became sick for a week with fever, sore throat, and the same kind of eruption.

Thirteen days later, December 27, the child E, aged 4, was taken like the rest, and was in bed for a week with fever, throat trouble and eruptions.

Child F, aged 13, had no second attack.

Child A had a peculiar granular-looking surface upon the swollen tonsils and borders of the palate ever after the first attack until about two months after the second, which finally yielded to direct daily application of tincture of iodine and glycerine, equal parts.

None of the dreaded sequelæ occurred in any of the cases.

The case of the first child I believe to be of specific scarlet fever poison, contracted at school, as child B was not in school. And in this case, as in many other I have seen, the younger ones at home, the least exposed, were the first to develop the disease in all its characteristics.

It is not usual to see a large family come down singly, and at such long intervals. Although we meet variable periods

of incubation in the same household, the disease occurs more frequently in groups, as though two or three had been infected at the same time.

The striking feature of this history is the recurrence of sickness in the same order of individuals as at first; and, that the child A should so soon repeat his eruptions, six months being the quickest repeat in my previous experience.

779 W. Monroe Street.

ARTICLE IV.

IS CHLORATE OF POTASSIUM IN ORDINARY DOSES EVER POISONOUS? By E. INGALS, M. D.

In an editorial in the *Medical Record*, of January 13, on "Directions Regarding the Administration of Medicines," we are told that a girl fourteen years old, suffering from follicular inflammation of the fauces, had a mixture prescribed by her physician, of which she was to take a teaspoonful three times daily. In addition, the physician told her to dissolve two teaspoonfuls of chlorate of potassium in a tumbler of water, and with this to gargle the throat at intervals. The mother, misinterpreting the directions, gave the potash internally in doses of two teaspoonfuls of the saturated solution four times daily, with an equal quantity of the "mixture." This would give about eight grains of the chlorate to a dose, or thirty-two grains in twenty-four hours. Symptoms of poisoning, of which the child died, were developed on the second day. The statement leaves the impression that poisoning was attributed to the chlorate of potassium. It would be interesting to know of what the "mixture" that was administered along with it was composed. I am sure that less than ten grains of chlorate of potassium administered four times daily to a girl of fourteen years, so far from being poisonous, would hardly produce any appreciable effects. This, however, does not militate against the proposition that the physician should be precise and clear in his directions to both nurse and patient.

BOOKS AND PAMPHLETS RECEIVED.

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Ohio Medical Society Transactions, 36th and 37th annual meetings.

Practical Examination of Urine. Tyson. P. Blakiston, Son & Co.

A Dictionary of Medicine. Quain. New York: D. Appleton & Co

Legal Medicine- Tidy. 2 vols. New York: Wm. Wood & Co. W. T. Keener.

Pocket Therapeutics and Dose Book. Stewart. Detroit: Stewart & Co.

Compend of Anatomy. Roberts. Philadelphia: C. C. Roberts & Co.

Manual of Gynecology. Hart & Barbour. New York: Wm. Wood & Co. W. T. Keener, Chicago.

Treatise on Fractures. Stimson. Philadelphia: Henry C. Lea's Son & Co. Jansen, McClurg & Co.

Diseases of the Ear. Politzer. Philadelphia: H. C. Lea's Son & Co. 1883. Jansen, McClurg & Co.

Early Aid in Injuries and Accidents. Esmarch. Philadelphia: H. C. Lea's Son & Co. Jansen, McClurg & Co.

Treatise on Diseases of the Skin. Hyde. Philadelphia: H. C. Lea's Son & Co. Jansen McClurg & Co.

Diseases of the Liver. Harley. Philadelphia: P. Blakiston, Son & Co. W. T. Keener.

Dr. R. G. Bogue has been appointed by the Cook County Commissioners one of the surgeons to Cook County Hospital. This selection is highly creditable to the Board, and if Dr. Bogue accepts, the medical students and the patients will have an able and conscientious practitioner and an eminently practical teacher.

Dr. E. S. Pettijohn, of Chicago, has been appointed second physician to the Eastern Hospital for Insane at Kankakee, to fill the place made vacant temporarily by absence of Dr. H. M. Mayer.

Selections.

ABSTRACT OF LETTSOMIAN LECTURES ON THE TREATMENT OF SOME OF THE FORMS OF VALVULAR DISEASE OF THE HEART. Delivered before the Medical Society of London. By ARTHUR ERNEST SANSOM, M.D. Lond., F.R.C.P., Physician to the London Hospital, Senior Physician to the North-Eastern Hospital for Children.

LECTURE II.—MITRAL REGURGITATION. *Morbid Anatomy—Clinical Study—Regurgitation in Adynamia, in Acute Fevers, in Rheumatism and in Degeneration—Treatment General and Special—Action of Digitalis, Belladonna, Caffeine, Convallaria majalis, etc.*

I have to ask your attention this evening to the subject of the treatment of various conditions of disease associated with a certain imperfection in the mechanism of the heart—an imperfection of closure of the left auriculo-ventricular orifice at the time of systole, occasioning the reflux of a portion of the contents of the left ventricle into the left auricle, the mitral valve being inadequate to close the orifice. Pathological anatomy teaches that such result may be brought about by several varieties of morbid change :

1. By dilatation of the left ventricle without structural disease of the valve ; so the free borders of the curtains are drawn upon by their circumferential attachments, and prevented from a perfect apposition in systole.
2. By diseased conditions of the valve-curtains, the tendinous cords and fleshy columns, induced by endocarditis, and the changes consecutive thereto.
3. By rupture of the valve-curtains, cords, or columns, and

their consequent incompetence. It has been supposed that rupture may occur from sudden strain in a healthy heart, but Drs. Wilks and Moxon have given strong reasons for the conclusion that there must have been some dilatation, at least, of the left ventricle previously. They consider that this accident is not of infrequent occurrence.

4. By atheromatous disease, patches of which may be observed upon the valve with consecutive degenerative change, rendering it inadequate.

5. By ulceration of portions of the valve and the surrounding structures.

Mitral regurgitation is not, however, wholly to be interpreted by pathological anatomy; it is to clinical investigation that we must chiefly look for guidance. Of this condition, a murmur at the left apex of the heart with the systole is the sign almost, though not quite, pathognomonic. The only condition with which it is likely to be confounded is, in my opinion, pericardial roughening at or about the apex. I have never known a difficulty about the differential diagnosis in the case of adults, but I have observed such difficulty several times in children. In cases of children I have repeatedly said that the quality, character, and situation of a systolic apical murmur will not declare with precision whether there be exocardial or endocardial disease. Combined clinical and necroscopic observation soon convinces us that, in certain cases, wherein we have determined from such physical sign that mitral regurgitation existed during life, no lesion indicating inadequacy of the mitral valve to close its orifice has been discovered after death. Moreover, in some cases, where we have not only observed the sign mentioned, but where the whole category of signs, symptoms, and consecutive changes which experience has taught us to associate with mitral inadequacy has been present, the necropsy has demonstrated no determinate lesion at the orifice.

It will best serve a practical purpose, I think, if we divide the cases in which the signs indicating mitral regurgitation are evident into clinical groups, discussing the bearing of the collateral phenomena upon treatment in each group. We shall thus consider the cases just as we meet with them in practice.

I. A case presents itself, manifesting signs indicating mitral regurgitation in the subject of marked anæmia. We have to inquire whether or no there has been antecedent disease, leading up to organic change at the mitral orifice. Supposing such signs are not in evidence, have we a right to assume that actual mitral regurgitation can be induced by the condition of anæmia without concurring causes? The answer is, in my opinion, undoubtedly in the affirmative. In cases of anæmia and chlorosis, a murmur is sometimes heard exactly in the site of that indicating mitral regurgitation. Assuming that, in these cases, there is a veritable regurgitation, how is such brought about? The explanation, is, I think, given by the careful experiments conducted by Ludwig and Hesse at Leipzig, which have been admirably summarized by Dr. Donald Macalister (*Remarks on the Form and Mechanism of the Heart*). The mechanism for the closure of the left auriculo-ventricular orifice does not reside in the valve-curtains alone; the surrounding muscles of the ventricle have an active share, not merely in floating up the valve-curtains, but in reducing the size of the aperture which these valve-curtains have to close. It is not that the orifice is dilated, but that it is insufficiently contracted, the aid of the muscles of the wall of the ventricle which normally produce such contraction being lost.

It is important, in regard to treatment, to differentiate mitral regurgitation due to disease of the valves, from that due to adynamia of ventricle, supposing a systolic-apical movement to be manifest in a markedly anæmic subject. The two signs I would most rely on as pointing to an anæmic causation of the murmur are (1) an absence of notable cardiac dilatation; (2) a heightened tension in the systemic arteries. I have never known in these cases any marked improvement follow the administration of the usual cardiac tonics, such as digitalis and iron. In the cases attended with hæmorrhage, it is, of course, of the first importance to arrest this at its source. Rest, and the administration of assimilable food, are no less important indications. In this connection, I may call attention to the great value I have observed to attach to supplementary alimentation by the rectum in such cases. I have long tried the plan of using defibrinated ox-blood for a nutrient enema, as advocated by my friend Dr. A.

H. Smith, of New York. In comparing results, however, with those in which artificially digested food has been employed, I felt that the balance of evidence is in favor of the latter plan. I have had prepared mixed peptone enemata—beef, milk, and farinaceous food—which have been proved to preserve a perfectly good condition for long periods. These have the advantage of being available at a moment's notice, it being only needful to render them diffuent with warm water. From two to four ounces are injected slowly into the rectum, and repeated every three or four hours. In many cases, I have caused to be added the dry ox-blood (*sanguis bovinus exsiccatus*), in the proportion of a drachm to the ounce. I have lately, however, adopted a simpler plan with good results; using, instead of peptoned food, equal parts of warm milk and cod-liver oil, as a nutritive enema. In the treatment of cases of idiopathic anæmia, I have found no drug-treatment so efficient as the administration of arsenic (Fowler's solution in small doses gradually increased). I have observed, as has been recorded by others, complete recovery, with the disappearance of the cardiac murmur, under such treatment, combined with rest and careful nutrition.

II. We will now assume that a systolic apex-murmur is present in a patient showing signs of *a neurosis of the cervical sympathetic*. It has been frequently noted that a murmur at the apex has existed in the subjects of exophthalmic goitre (Graves's or Basedow's disease); yet, on post mortem examination, no disease at the mitral orifice has been discovered. In these cases, anæmia may be present, but not of necessity. It is not causally related with the phenomena. Organic heart-disease may coexist, but such coincidence is rare. It is important to recognize, especially with regard to treatment, that, in the subjects of Graves's disease, mitral regurgitation occurs without valvular lesion. The record of fatal cases in which disease of the cervical sympathetic ganglia has been actually demonstrated in Graves's disease, is now tolerably extensive. Trousseau, Cruise, and McDonnell, Reith, and Shingleton Smith, have recorded cases in which some of the ganglia (usually the inferior cervical) have been enlarged, atrophied, or degenerated.

As regards the cases which I have seen, ordinary tonics and

digitalis have been of very little benefit; but great improvement has followed galvanization of the cervical sympathetic. I have employed the continuous current, from twenty to forty elements (Leclanché). One pole may be placed behind the lower jaw in front of the sterno-mastoid, and the other either at a corresponding point of the opposite side or at the nape of the neck, right or left of the vertebra prominens, or above the sternum at the inner edge of the insertion of the sterno-mastoid.

III. I now turn to a third group of cases, and assume that the indications of mitral regurgitation are manifest during the *evolution of certain fevers*. In the course of typhoid fever, for example, a systolic murmur may be discovered at the apex. There is no history of its existence before the attack, but it has arisen during the course of the disease. The murmur is an evanescent one. To what is it due? The changes are, according to M. Hayem's observations, not in the endocardium nor pericardium, but in the muscle of the heart. In fatal cases, the muscular fibers present a granular and fatty degeneration, or a special form of vitreous degeneration; the areas of morbid change are disseminated in an irregular manner here and there throughout the cardiac muscle. There are, besides, a multiplication of the muscular nuclei and aggregation of cellular elements; in fact the disease is a form of myocarditis. It is, I think, sufficiently proven, that the murmur occasionally heard at the apex in cases of typhoid is due to regurgitation, on account of imperfect apposition of the valves of left or right sides from enfeeblement, by disease, of the muscular fibers in certain areas of the heart wall. It does not appear that the occurrence of such murmur renders the prognosis more grave, but sudden death from myocarditis in all probability may occur in typhoid, without any special evidence of direct cardiac impairment previously. Its occurrence, however, should make us watchful, and cases presenting any of the phenomena indicating myocarditis in typhoid should be observed and treated with a view of preventing subsequent dilatation. Analogous myocarditis has been described in variola (by MM. Desnos and Huchard), and in severe forms of intermittent fever as observed in Africa (by M. Vallin).

It is obvious that a recognition of the nature of the alteration which produces a mitral regurgitant murmur in these cases must have an important bearing on treatment. We need not fear that endocarditis has arisen as a complication, nor have we to debate as to an anti-rheumatic plan of treatment. The indication is to keep the disturbed muscle of the heart as tranquil as possible, and, of course, to promote as good a nutrition as the circumstances will permit.

IV. I now come to the fourth group, and assume that a murmur indicating mitral regurgitation is observed in the subjects of *acute or subacute rheumatism*. Attention has been frequently drawn to the fact that murmurs may arise in the course of evolution of the disease, and yet disappear, and patients may be supposed to be free from cardiac complication. I have, in my former lecture, deprecated this as a too hasty conclusion. It may be well to inquire, in the first place, what is the probable nature of these transitory or evanescent murmurs, which are by no means uncommon, for they occur, as the statistics of the London Hospital for 1880 and 1881 show, in about 10 per cent. of the cases. Rheumatism is a disease notably attended with anæmia. The evidence collated for me by Dr. Gabbett as to the site of such transient murmurs is, I think, against this view. It is well known that the murmurs heard in connection with anæmia, though sometimes heard at the apex, and indicating mitral regurgitation, are far more frequently audible at the base over the site of the pulmonary artery or aorta; even when heard at the apex, they are usually accompanied by other murmurs at the base. In rheumatism, however, the usual site of the evanescent murmur is the apex. The totals for 1881 show as follows: Transient murmurs in mitral area, 15; at base and apex, 7; in aortic area, 5; in pulmonic area, 3.

It would appear that a murmur which might suggest an anæmic causation is almost confined to a first attack of rheumatism. After two or more attacks, no basic transitory murmurs are recorded. Then, as regards the transient systolic murmur in the mitral area, we may ask whether it may be due to myocarditis. If so, it does not resemble in associated phenomena the murmur observed in typhoid, etc. The peculiar perturbations

of rhythm are not recorded, and it would appear probable that, if there be myocarditis, it does not occur in disseminated areas as in typhoid. May it not be that the temporary regurgitation is due to a localized myocarditis developed in the neighborhood of a swollen valve or inflamed endocardium? Thus, though the swollen valve might not be in itself incompetent, a temporary incompetence would be produced by the impairment of the force of the muscle. As the myocarditis subsided, the valve would again become competent, but probably, in many instances, to present a renewed imperfection when the swelling, in the course of time, has given rise to fibrous change and consequent shrinking. I draw attention to this as a caution as to the expression of any opinion that a valve is sound after a murmur developed during the early stages, and disappearing during the latter period of rheumatic fever.

Supposing that mitral regurgitation is left after rheumatic endocarditis, it is well known that compensation may be effected, and the health of the patient be preserved for very long periods with no subjective symptom of cardiac unsoundness. The chief factor in inducing such compensation is a (conservative) hypertrophy of the right ventricle, and the sign of such compensation (supposing the amount of blood regurgitating to be not very small) is an accentuated second sound over the pulmonary semilunar valves. If we are satisfied that there be due compensation, medicinal treatment may be entirely unnecessary. I have no doubt that a vast amount of injury has been done to patients by a shaking of the head of the auscultator over the subject of a mitral murmur, who perhaps was no worse at the time of examination than he was ten, twenty, or thirty years before, and who might continue uninfluenced for harm by his cardiac complication all his days. He should be cautioned against strain, exposure, irregularities of diet, etc.; he may be better occasionally for treatment by iron tonics, cod-liver oil, or strychnine, but any special cardiac treatment is out of place.

Not so, however, if there be evidence that compensation is beginning to fail. I will pass in brief review the chief agents which are of service in such case.

I. *Digitalis* is *facile princeps* of drugs in the treatment of

imperfect compensation. A little over a suitable dose, however, may induce nausea, vomiting, anuria, irregularity of pulse, and, instead of slowing, an enhanced rapidity of heart-action. Whilst a dose which produces favorable result is constant and discoverable, in regard to a large majority of patients, in a minority, such dose is inconstant and even unattainable.

As regards the preparation used, we may have differences of results, and we know that, as in the case of so many vegetable products, the energy of different samples may vary. Practically, I consider the tincture most reliable, and that usually in small doses, five minims to ten minims, increased only in exceptional cases, and then occasionally reduced; next in value I considered the powdered leaves (half a grain to two grains) the combination of which with alkalies I shall hereafter consider.

In some cases, even by increasing the dose, no apparent influence appears to be exerted by the drug; then digitalis, especially when hypodermically injected, I have observed to give, in many cases, good results. The digitalis hitherto prepared has probably scarcely ever been the pure alkaloid. The usual dose for hypodermic administration is one-fiftieth of a grain.

When the right ventricle has dilated so far that there is marked tricuspid regurgitation, the beneficial action of digitalis is by no means so decided. Nevertheless (especially when purgatives are also administered), the signs of tricuspid regurgitation may pass away. In other cases, no such favorable result attends. In fact, as *à priori* considerations might suggest, any increased force of systole which the digitalis may bring about serves the more to urge back the blood through the imperfect tricuspid orifice into the venous channels. But yet I have seen good results when the administration of digitalis has been combined with abstraction of blood by leeches or cupping to relieve venous engorgement.

II. Belladonna is, I think, only useful in the treatment of failure of compensation in cases of mitral regurgitation, when combined with, or occasionally substituted for, digitalis. Belladonna, like digitalis, increases the power of systole and raises the arterial tension. As Dr. Lauder Brunton has shown, it paralyzes the cardiac terminals of the vagus, and reduces irritability by an anæsthetic effect on the sensory nerves of the heart. Very useful

occasionally, it by no means compares with digitalis for prolonged employment. The hypodermic injection of one-fiftieth of a grain of digitalis with one-eightieth of a grain of atropine I have found very satisfactory.

III. *Casca*.—A tincture made from the bark of the ordeal bark of West Africa has been employed as a substitute for digitalis. Dr. Lauder Brunton, in his *Gulstonian Lectures* for 1877, published the results of elaborate experiments as to its physiological action. In kind, this action appears much to resemble that of digitalis. Dr. Brunton has said: "Digitalis has hitherto been our great resort in mitral disease, but I think it probable that in *casca* we possess a drug more powerful still; at least, its effect upon the arterioles appears to be greater than that of digitalis, and it is quite possible that it may succeed in those cases of advanced mitral disease where digitalis fails." I have myself employed the tincture of *casca*, substitutively for digitalis, in a considerable number of cases, but I have never yet been able to convince myself that it has any more beneficial action in mitral disease.

IV. *Caffeine*.—Gubler, Shapter, Leech, Milliken, Brakenridge, Huchard, and others have recorded observations showing the action of caffeine (or its citrate) in cases of cardiac disease, especially where dropsy is a marked symptom. Some of the cases show very forcibly that a beneficial influence has been exerted by the drug. There are many apparently contradictory data as to the physiological action, but the cardinal points are, that it at first quickens, but soon after slows the heart's action, and that it acts in a very pronounced manner as a diuretic in cardiac dropsy. Dr. Brakenridge advises that digitalis be administered previously to or in conjunction with the citrate of caffeine, and that small doses (three grains) should be employed. M. Huchard, however, recommends that caffeine and not its citrate should be used, and that in larger doses (four to six grains). It produces diuresis more rapidly than digitalis, and has none of its nauseating effects. I have employed citrate of caffeine in substitution for digitalis without any marked benefit being manifest; indeed, I have found that in some cases it has induced insomnia. Nevertheless, I consider that the evidence is such that I should certainly employ it

in many cases where, as in cardiac dropsy, a rapid diuretic effect is desirable.

V. *Convallaria majalis*.—This is the well-known lily-of-the-valley, long employed by the Russian peasantry as a remedy for dropsy. Professor Sée has shown that it has an action much resembling that of *digitalis*. An extract of the whole plant is employed in doses of from five to eight grains, three times a day. In cases of mitral regurgitation with severe symptoms, it entirely relieved the cardiac distress, and manifesting a decided diuretic action, removed the dropsy. Professor Sée considers that it may be used in all forms of heart failure, for it has none of the nauseating effects of *digitalis*, nor does it exhaust the contractility of the heart and arteries. I have employed it as a substitute for *digitalis*, and am convinced of its action in promoting a stronger ventricular contraction; but I am not yet convinced of its superiority to *digitalis*.

VI. *Morphia*.—The hypodermic injection of *morphia*, as advocated by Dr. Clifford Allbutt, is a most valuable adjunct to the treatment of failure of compensation in cases of mitral regurgitation. I have found preparations of opium by the mouth generally disagree, but not so when the alkaloid is hypodermically injected. It is often very advantageous to combine the *morphia* with *atropia* or *digitaline*.

V. By no means all the cases which come before us showing mitral regurgitation are to be explained by the modes of causation we have hitherto discussed. In a considerable minority, such regurgitation is secondary to combined high tension in the aorta and arteries. It is important for prognosis and treatment to discriminate the cases of *mitral regurgitation due to heightened arterial tension*. In such, the apical murmur is usually post-systolic, the signs of hypertrophy preponderate, the patient is usually, though not always, of middle or advanced age, the advent of signs has been gradual; often the arteries may be observed to be tortuous and hard. The most important signs however, are the discovery either of aortic disease, or of accentuation of the aortic second sound, with pulse of high tension. Chronic renal disease may be also manifested. When not so complicated, great improvement often follows a prolonged treat-

ment by alkalies with iodide of potassium. A carefully regulated diet is most important, and those cases do best, I am convinced, who entirely abstain from alcohol. It is by no means infrequent to find a murmur of regurgitation brought about by such causes wholly disappear. Their epiphenomena are often to be successfully treated by the administration of nitro-glycerine, or the inhalation of nitrate of amyl.—*British Medical Journal*.

OBSERVATIONS ON THE MANAGEMENT OF ENTERIC FEVER ACCORDING TO A PLAN BASED UPON THE SO-CALLED SPECIFIC TREATMENT, By JAMES C. WILSON, M. D., Physician to the Jefferson Medical College Hospital, and to the Philadelphia Hospital. (Read January 3, 1883.)

I desire to lay before the College a plan of managing enteric fever, which I have employed during the past year and which, tested by such uncertain but not necessarily fallacious means as are available for a limited series of cases, has yielded satisfactory results.

The object of this communication will, I believe, be best attained by first sketching in outline the plan of treatment itself; next, by reviewing the considerations which led to its adoption, and finally by a brief study of the cases. This arrangement of the topics will enable us to economize time.

The Plan of Treatment.—The scope of this paper, and the necessity to be brief, debar me from the consideration of the general management of the patient, dietetics, the treatment of complications and sequels and of the prophylaxis; and restrict me, in the main, to the subject of the management by medicinal means. It is, in fact, this part of the treatment that, super-added to so-called rational and expectant method in general use in this community, differs from the common practice and constitutes the plan in question.

So soon as the patient is found to have enteric fever, or, in many instances, so soon as his symptoms warrant a reasonable suspicion that he is about to develop it, he is put to bed, ordered

a diet consisting of milk, animal broths, jelly and simple custards, in small amounts, and at intervals of two or three hours. At night he is given a dose of calomel. This dose varies in amount from $7\frac{1}{2}$ to 10 grains (0.5 to 0.66 gramme) and is repeated every second evening until three or rarely four doses have been administered in the course of the first six or eight days. It is given alone or in connection with sodium bicarbonate. There is commonly a slight increase of diarrhœa, if it be present, without aggravation of the other symptoms, and in some instances the tendency of the temperature at this time to steadily rise, appears to be controlled. If, as is frequently the case, spontaneous diarrhœa has not recurred in the first week, the calomel usually brings about two large evacuations on the day following its administration, not more. In either case the tendency to frequent passages in the later stages of the attack is favorably influenced by the repeated administration of this drug during the first week. If the case does not come under observation until after the tenth day, one only, or at most, two doses of calomel are given. No further doses of it are, however, given during the course of the attack unless constipation occurs. In this event, if the evidences of extensive or deep implication of the intestinal wall, such as abdominal pain, tenderness or marked tympany are absent, calomel in $7\frac{1}{2}$ -grain (0.5 gramme) doses is given at intervals of three or four days. If there is reason to suspect serious intestinal lesions, the lower bowel may be more safely emptied of its contents every third or fourth day, by enemata of moderate size (8 to 10 fluid-ounces). It is necessary to bear in mind that the gravest lesion of the gut leading even to hæmorrhage and perforation, have occasionally been observed in cases characterized, not only by constipation, but also by an entire absence of pain or tenderness, and very moderate tympany. The danger of salivation from calomel in these doses in enteric fever appears to be slight. In only one case in sixteen were the mercurial fetor and slight swelling of the gums observed.

Excessive diarrhœa has been controlled by the use of opium, either in suppositories, containing 1 grain (0.06 gramme), or by the mouth in quarter-grain (0.016 gramme) doses, often associated with bismuth, and given *pro re nata*. It is an invariable rule

that the patient be kept in the horizontal position and to the use of the bed pan and urinal, from the time of the recognition of the disease until defervescence is completed. He is, however, turned upon his side from time to time, and made to maintain that position for twenty or thirty minutes, if necessary, being supported by the nurse.

From the beginning of the attack the following mixture is regularly administered in doses of one, two, or even three drops in a sherry-glassful of ice-water after food, every two or three hours during the day and night :

R.	Tinct. iodinii, f5ij.....	8		00 c. c.
	Acid. carbolic liq., f5j.....	4		00 c. c.
M.				

Unless some unusual circumstance occur to render a change necessary, this medicine is not suspended until the attack draws to a close. It is well borne by the stomach and excites no repugnance on the part of patients. In one case only has it been necessary to omit the carbolic acid on account of the disgust assumed by its odor.

Partly for the sake of its favorable influence upon the skin and for the sake of cleanliness, partly because of its favorable though slight influence upon the temperature, the patient is to be sponged twice a day with equal parts of aromatic vinegar or alcohol, and cold water. If it is more grateful to him, this sponging may be done in tepid water, the evaporation of an extensive film of water not below the temperature of his body probably being not without a refrigerating tendency.

When the evening axillary temperature reaches 104° F. (40° C.) quinine in massive doses, 24 to 30 grains (1.66 to 2.00 grammes) is given upon a falling temperature. I usually direct 8 to 10 grains to be given in solution at 5, at 5.30, and at 6 A. M. the following morning. Administered thus at the decline of the temperature in its diurnal revolution, these large doses of quinine depress it from 2.5° to 3.5° F. (1.4° to 1.8° C.). After the lapse of forty-eight to seventy-two hours, if necessary the dose may be repeated. If these doses be rejected by the stomach—an unusual circumstance—half the quantity of quinine may be administered hypodermically. For this purpose a citric

acid solution is to be preferred. Since the adoption of the plan of treatment under consideration, I have not encountered cases attended with such hyperpyrexia as has rendered attempts to control it by cold baths necessary or even advisable.

The minor nervous symptoms are best held in check by skillful nursing. For the relief of the headache of the first ten days, absolute quietude, a dim light, etc., are often sufficient; occasionally the bromides alone, or in combination with chloral are required. Later in the course of the disease chloral is unsafe. From the end of the first week the patient cannot be left unattended even for a few minutes, without risk. Persons in whom delirium was only occasional and transient, have in many instances destroyed themselves during the momentary absence of the nurse.

Alcohol is not often indicated prior to the beginning of the third week. It may, however, by reason of the habits of certain patients, be necessary throughout the attack. Although forming no essential part of the treatment, it is commonly administered in varying though usually small amounts towards the close of the sickness. Some patients do well without taking it at all. It is of course administered in accordance with well-understood indications upon the supervention of delirium, ataxic symptoms and the evidences of failures of the forces of the circulation. The patients are carefully watched well into convalescence, and cautioned against too soon regarding themselves restored to health.

The dangers of the establishment of a focus of contagion are guarded against by the systematic, thorough disinfection of the stools immediately after they are voided.

The considerations which induced me to adopt this plan of treatment indicated in the foregoing sketch, are:

1. A feeling of dissatisfaction regarding the expectant method of treating enteric fever. This feeling, vague at first, grew more definite and stronger with increasing clinical opportunities, and a fuller knowledge of the natural history of the disease, until it became a motive, impelling me to cast about for some different and more satisfactory plan. This feeling has been during the past decade, a very general one in the profession in all parts of the world, as is attested by an almost endless succession of jour-

nal articles setting forth new plans of treatment, and the use of new drugs in the management of this, the most common and most important of the acute infectious diseases of the present epoch in medical history. Most of the plans thus suggested have led to disappointment when tested by the fuller observations of the profession; many of them have failed to attract general attention, and some few are still *sub judice*. Their number and diversity bear witness to a wide-spread distrust of the once well-established expectant treatment. This distrust is, however, based upon something more tangible than a mere feeling of dissatisfaction. The statistics of all observers whose cases have been sufficiently numerous to be trustworthy, show enteric fever to be, when treated by the expectant plan, a disease of high death-rate.

The percentage of fatal cases rarely falls below 15 per cent., and often exceeds 25 per cent., according to the hospital records of this country, Great Britain, and Continental Europe. Jacoud, with a collection of 60,000 cases, observed a mortality of 20 per cent.; Murchison, in 27,051 cases, 17.45 per cent.; Leibermeister, in 1,718 cases, at Basle, under an expectant plan, records 27.3 per cent. of deaths. But turning from broad generalizations to personal experience, who is there here that, many times elated by the happy issue of mild or average cases treated by the expectant plan, has not realized the sense of utter powerlessness attending it when he has stood face to face with cases in which *to do* rather than *to wait*, has been necessary to save life?

2. Enteric fever is the very type of the general diseases, of affections *totius substantiæ*. The tissues are universally implicated in the morbid processes; no function of the body wholly escapes perturbation. For this reason, plans of treatment suggested by the prominence of certain groups of symptoms, or by the known lesions of particular organs, even though of undoubted benefit as far as they go, are in theory unsatisfactory, because they are directed in effect against conspicuous manifestations of the cause of the sickness rather than against the cause itself.

Whilst in actual practice, the treatment by turpentine, by alcohol, by opium with lead, or the silver nitrate, or by agents capable of controlling the febrile movement, as quinine, digitalis,

salicin, and the salicylates, even the cold-water treatment itself, although at times, and in the hands of certain clinicians showing favorable results—all these have failed of general acceptance on the part of the profession.

3. The general character of the disease, the specific nature of its cause, the unsatisfactory results alike of an expectant and of a symptomatic plan of treatment, or rather of the two combined, have united to render the idea of a specific treatment, a true cure for enteric fever, a most attractive one, to stimulate thoughtful observers to renew again and again the disappointing search for it. To this idea may be traced the treatment by the mineral acids, by chlorine-water, by carbolic acid, by quinine alone, by quinine and digitalis, by iodine, by the potassium iodide, by calomel.

4. No only is the conception of a specific treatment for specific diseases a most attractive one, and the attainment of such a treatment for enteric fever brought within the bounds of a reasonable hope by the analogy of syphilis and the malarial diseases, but the search after it with due caution and judgment, has also the warrant of the very highest medical authority.

Passing by some earlier names, I refer to Da Costa, who has said: "It would be as illogical as absurd to suppose that we shall never possess the coveted means really to cure the continued fevers. Doubtless, to the physicians of the time of Charles V., the radical and specific treatment of the malarial fevers appeared as hopeless and remote as the radical and specific treatment of the continued fevers appears to the scientific inquirer of our day."

I refer also to Liebermeister, who, treating about 800 cases, part with calomel, part with iodine, had, with the former drug, a mortality of only 11.7 per cent., with the latter of 14.6 per cent., against 18.3 per cent. for cases treated without those remedies, but in other respects upon a similar plan.

Bartholow has also spoken in favorable terms of the treatment by iodine in combination with carbolic acid.

The treatment adopted is thus seen to consist of the use of the two remedies that are proved to exert a favorable influence upon the disease, iodine and calomel, with the addition of carbolic acid in minute amounts. I am aware that no positive conclusions as

to the efficacy of particular plans of treatment can be deduced from a limited series of cases. I am also aware that few acute diseases show greater variations in intensity and in the percentage of mortality at different periods, and under different circumstances, than enteric fever. Nevertheless, I have ventured to occupy your attention with this subject to-night, because the results of the treatment encourage me to hope that its discussion in this way will lead to its trial on a more extended scale. That it amounts to a specific treatment in the narrow sense is not affirmed. It is tentative, provisional, but it is, nevertheless, to be regarded as a contribution to the subject of the specific treatment of enteric fever.

The total number of cases treated by this plan is sixteen; all recovered, one being now in the second week of convalescence.

Of these, eight were severe, the temperature reaching or exceeding 104° F. (40° C.).

Of these eight severe cases, one was characterized by uncontrollable vomiting in the third week. The patient retained no food taken by the mouth for five consecutive days.

One case was very irregular in its course, and was complicated by an obscure abdominal abscess which discharged by the bowel. The temperature in this case on two occasions attained 105° F. (40.5° C.). This case presented the characteristic eruption of enteric fever.

A third case was prolonged by a severe relapse.

Of the eight cases in which the observed temperature did not at any time attain 104° F. (40° C.), and which was therefore looked upon as medium or mild cases, one was complicated by crural phlebitis, and another by the occurrence of intestinal hæmorrhage.

The average duration of the eight severe cases was about 31 days; that of the eight mild and medium cases was about 25 days.

Of the whole number ten were treated in hospital, six in private practice. All from the time of their coming under observation were under my personal care.

In two cases the special plan of treatment was abandoned about the beginning of the third week on account of the super-

vention of unusual symptoms of great gravity. These related respectively to gastric irritability and an obscure abdominal abscess.

These sixteen cases are unfortunately not a consecutive series. During the year in which I have had the opportunity of observing them, two other cases of enteric fever have occurred in my hospital practice in which this plan of treatment was not employed. One was that of a man suffering from rheumatism, who, after a stay of several weeks in the wards, and in a bed near that occupied by a patient very ill of enteric fever, was observed to be febrile, and to have the typhoid eruption. This person, previously greatly reduced, was not regarded as a suitable subject for a special treatment, the efficacy of which was not yet established in my mind. The other was a man, who, with an obscure history of a sickness of many weeks, and a very irregular temperature, developed the typhoid eruption, and within forty-eight hours had general peritonitis. These two fatal cases have however no bearing upon the result of the treatment.

In private practice several cases of mild continued fever of long duration were treated upon this plan during the past winter. I believe them to have been anomalous cases of enteric fever, but as the rose spots of that disease were absent, and their departure from the typical disease was wide, I have not included them in the above collection of cases treated. They all recovered.

The result of this plan of treatment has not only been satisfactory in respect of the recovery of all the cases treated, an accidental circumstance not liable to mislead persons familiar with the disease, but it has also been satisfactory in respect of the general course of the attack, and the appearance of the patient. These were in the main, despite the severe type of the disease, in several of the cases and despite the occurrence of grave complications, favorable. I make this statement with due regard to the personal equation, and with no willingness to permit the observed fact to differ from the actual fact, for I desire any who may make trial of this plan to be more favorably impressed with the results of it, than they have been impressed with my account of it.

[After the reading of the preceding paper :—]

Dr. George Hamilton spoke of the great importance of preventing hypostatic congestion by changing the position of the patient from time to time. This was one feature of the plan of treatment recommended some time ago by Dr. Wm. Pepper, in typhoid fever, by which he obtained the unequalled result of 98 per cent. of recoveries. He was not, however, at this time able to recall in detail the method of treatment.

Dr. J. T. Eskridge stated that the treatment to which Dr. Hamilton referred consisted in the administration of nitrate of silver, and was that which had been introduced by the late Dr. J. K. Mitchell some years ago.

Dr. Roberts Bartholow said that the plan of treatment of typhoid, advocated in the very interesting and able paper just read, is, as all present probably know, in part, the so-called "specific" method. The administration of calomel in full purgative doses during the first week serves a double purpose: it has an effect on the range of temperature, and it acts on the typhoid germs present and multiplying in the intestinal canal. The use of iodine—usually Lugol's solution—throughout the disease, is also one mode of the specific treatment. By the use of this medicine, it is attempted to prevent the multiplication of germs in the intestine, to check fermentation, and to maintain an antiseptic action in the blood.

Although the existence of typhoid germs has not been proved, it must be regarded as possible. Klein, a few years ago, announced the discovery of the specific organism of typhoid in the affected intestinal glands, but Creighton of Cambridge, showed that the supposed germs were produced by the mode of preparation. This *fiasco* threw great discredit on the whole question of germs. Nevertheless, the course of treatment directed against supposed germs—the antiseptic method—has had a most favorable influence on the progress and mortality from typhoid. Whilst the specific plan has been advocated in Germany, the Montpellier school have brought forward carbolic acid as the remedy, and the success which has attended the use of this remedy has been really remarkable. Quite a different complexion has been put on the statistics of mortality since they began the use of carbolic acid.

It is probable that the combination of carbolic acid and iodine gives better results than the use of either singly. According to my observation, this method of treatment diminishes the diarrhoea, lowers the fever, and renders the disease much less violent, consequently lessening the mortality. Dr. Wilson has, therefore, rendered us a real service by drawing attention anew to this plan of medication, and especially by supporting his position with valuable cases and statistics. Besides this use of medicines, Dr. Wilson's treatment contains many valuable suggestions and practical methods, which, no doubt, contribute materially to his success.

Dr. J. M. Da Costa spoke of the purgative treatment in enteric fever, as that which has been tried in the French Hospitals and for a time sanctioned by Louis. As regards calomel it was partly by its purgative action that it was supposed to be beneficial. In his hands the calomel treatment had not yielded favorable results. He had found carbolic acid useful in controlling diarrhoea and in lowering the temperature. He had also employed thymol in one-half to one grain doses. He suggested the use of this remedy in the place of carbolic acid, as more acceptable to the stomach.

Dr. Wilson, in reply to the question of Dr. Hamilton, said that he considered it necessary to frequently change the position of the patient to prevent pulmonary hypostasis. He had intended to emphasize this point in his paper. He called attention to the fact that carbolic acid and like drugs probably exert a favorable influence upon the course of enteric fever by their power to stay the rapid decomposition of the intestinal contents, which, for lack of the antiseptic influence of the intestinal juices, the bile, etc., all of which are changed, is a secondary cause of irritation, diarrhoea and tympany. Calomel also, he thought, probably exerted an indirect beneficial influence in the same direction.

Dr. H. M. Mayer has been commissioned by Governor Cullom to make an official report on his return from Europe, upon foreign lunacy management.

THE THERAPEUTIC VALUE OF CEPHALIC AND SPINAL ELECTRIZATIONS.* BY G. H. HUGHES, M.D., ST. LOUIS.

The physiological experiments of MM. Latournian and Laborde (*Gazette Hebdomaire*, 1879), confirmed by those of MM. Condorceau and Duval, performed on inferior animals, have fully demonstrated the power of electrizations to produce in the brain a state of temporary anæmia immediately following each application. But these demonstrations were only confirmations of a fact previously ascertained by clinical methods. M. Latournian having himself before reported the case of the Abbé C., whose brain, chronically congested to such a degree as to produce marked and grave psychical aberrations, yielded favorably to persistently repeated cephalic electrizations, and I had myself, long before this, employed these applications for this purpose, and became convinced, from repeated experience, of their power over the brain to tranquilize and subdue cerebral excitation, and over the vasomotor system to promote through them the contraction to normal dimensions of the abnormally distended cerebral arterioles in hyperæmic encephalic conditions.

Though the precise mode of action of the constant current in destructive brain lesions will probably not be understood until a number of cases, which have been treated in a similar manner, have been investigated post mortem, as Althaus says, is perhaps true; yet we now understand its *modus operandi* in cerebral congestion quite well, and in this knowledge we have, in part, doubtless, a comprehension of how it may act in arresting, if not in diminishing, the growth of morbid products within the brain. The diminished caliber of the cerebral vessels may be inimical to their development, and the same influence that restores normal vasomotor tonicity, may extend itself to the trophic and absorbent systems.

In the beginning of 1878 it had become quite a routine practice with me to so employ the constant galvanic current, and I have the records of a number of cases of induced cerebral hyperæmia,

* This paper was read before the Association of Superintendents of American Institutions for the Insane, at Toronto, Canada, June 14th, 1881, some of the clinical records being then briefly detailed verbally.

one of them a case of *meningitis verticalli*, which occurred in a late general of the army, as the results of a saber wound received in battle, in which the effects of repeated applications of this valuable therapeutic agent were most salutary. Since then I have extended the employment of the constant current to all well-marked congestive states of the cerebro-spinal nervous system, and to parts so involved, and intimately associated with the sympathetic system.

We may say, before passing to the record of our cases, that a now somewhat extended observation in electro- and neuro-therapy seems to confirm what Löwenfeld deduced from experimental galvanization of rabbits, viz: that, while descending currents contract (the vessels of the encephalon including its) meninges, ascending currents, from neck to forehead, dilate them; and it is well, also, to bear in mind Löwenfeld's further assertion that cross currents dilate on the side of the anode and contract on that of the cathode, while induced currents in any direction cause *hyperæmia cerebri*. These facts may also be satisfactorily proven by personal experimentation, and the failure to appreciate them is at the foundation of the ill success of so many who have attempted to employ cephalic electrization for therapeutic purposes and discarded it. It has not, in these instances, been the electric current which has been at fault, but the operator who has misdirected it. It is as valuable a servant, when skillfully used, as the surgeon's knife, and we should not condemn it because, in unskillful hands, it may prove equally unsafe and unsatisfactory.

In the present note we content ourselves with a few clinical confirmations of the value of the constant descending current in conditions of the brain associated, primarily or secondarily, with hyperæmia, reserving for another time illustrations of its value in other cerebral states and in certain abnormal conditions of the spinal cord.

Althaus, *vide* "*Brain*," April, 1881, has employed this agent successfully in resolving morbid depositions within the brain, and we have seen hemiplegia, dysphagia and aphasia from lesions of the brain and pons, disappear under its use, and the conviction has forced itself upon us from the more satisfactory results since

its regular employment in our treatment of our epilepsias, conjoined with internal therapy, that it is an auxilliary in this affection which ought not to be despised. True, these cases recover under treatment without galvanism, but if the majority of our cases under the combined treatment stay well, whereas formerly the most of them, perhaps three-fifths, relapsed, it is not unreasonable to have acquired a little faith in its aid.

Althaus (*vide supra*) has successfully treated diabetes insipidus by galvanizing the medulla; and melancholia, by applying the current to the occipital lobes; and has caused auditory delusion to disappear by applying the current to Ferrier's auditory centers in the superior temporo-sphenoidal convolutions.

We have seen similar results follow the use of the galvanic current applied to the head and spine, though always from using a descending current except in tinnitus aurium and other auditory hallucinations. Bright's and Addison's diseases, which, in all probability, are intimately associated with renal ganglia disease in their origin, are greatly benefited by spinal electrizations, and the former has disappeared under its use, if albumen and tube casts are to be taken as indubitable evidence of its existence. Diabetes mellitus, associated with profound melancholia and sexual apathy (loss of sexual desire without spermatorrhœa for six months), we have seen cured by it, conjoined with codia, cannabis indica and neurotic tonics and reconstructives. The miracles of medicine already wrought and still capable of being performed by the aid of galvanism wisely employed as auxilliary to a judiciously prescribed internal therapy, can not yet be exactly estimated, but if we judge even from the known curative verifications of the medicinal power of this agent, our prophetic record must be a liberal and exalted one. It will avoid lengthening this paper, which is intended to be but a brief note on one part of this interesting subject, if we refer the reader to Dr. Althaus' two interesting papers, in Nos. XII. and XIII. of "BRAIN," "*On Some Points in the Diagnosis and Treatment of Brain Disease.*"

The cases of cerebral trouble which we now detail may serve to illustrate the one aspect of our subject, which we started out to show:

N. J. W—— is a young unmarried man, of diffident mien, florid complexion; moderately good flesh; sleepless; pulse full and 84 per minute. He is troubled with morbid fears of various kinds, timid, forgetful, and unable to attend to business. His appetite is ravenous, and he is suspicious of the good intentions of his best friends, irritable and cross with them. He is of a sanguine, nervous temperament; some of his family have died of consumption; a sister is excessively nervous and his father died of cancer. Insanity with him is an impending possibility. Cephalic electrization through February and March (1879) and some general treatment in April restored him. He now (1882) attends regularly to business, having only occasional slight recurrences of the head symptoms, which a few days' treatment promptly dissipates.

A young clerk, F. G. W., æt. twenty-three, of full habit, red in the face, with bounding accelerated pulse and constipated; complains of a severe pressure in the head. Filling a position beneath his aspirations and esteemed by him a menial one, he has become sleepless and melancholy, brooding over what he considers the tyranny of his employer, and lamenting his inexorable adverse fate; he proposes to end his troubles by jumping off the river bridge. A consciousness, however, that something is wrong with his head, leads him to consult his physician, the distinguished Prof. H., who refers him to me. Coming directly to our office, and receiving a five minutes' electrization, he feels more comfortable, and for the present gives up his purpose of suicide. Given a drachm dose of bromide of potassium in a glass of water and retained in the office half an hour, he is then allowed to go home, with another drachm dose combined with half as much chloral, to be taken as he retires. In the morning he takes a citrate of magnesia and mercurial cathartic, and comes to the office for another seance, which, repeated morning and evening for a fortnight, with bromide and chloral for a few nights, to prolong the tranquilizing effect of the electricity, and later, if he should awaken between midnight and morning, an uncombined dose of chloral, to sufficiently prolong his sleep, and this patient's cure is practically complete. An injunction to take a dose of the bromide mixture at night when inclined to be

sleepless, or during the day, if head feels full, and a laxative pill for use when bowels are not free, are all of the precautionary measures prescribed. The patient has had no return of former symptoms at this time (January 1st, 1883).

Mrs. G., æt. thirty-three, married, has borne one child; has intra-cranial, vascular tension, auditory and visual hallucinations, highly vascular sclerotics and protruding eyeballs. One of the corneæ is scarred from former ulceration. Has had iritis and been under the care of different oculists for inflammatory and exudative conditions of the cornea and anterior chambers of the eye, and it has been pronounced amaurotic and glaucomatous. At the time she came under my care, March 13, 1881, she could neither see objects in her room, or discern light from darkness, though the pupils were dilated with atropine. Her homœopathic oculist informed her that only Providence could save her. An ophthalmoscopic examination revealed no retinal trouble, so that the inference was justifiable that the failure of vision was due to encephalic trouble beyond the ocular fundus (vascular pressure and exudation about the chiasma, the tubercula quadrigemina and angular gyri probably.) The latter condition being especially inferrable from the flashes of light which she has sometimes seen with closed eyes, and the visions of angels which came to her recently during a period of cerebral excitation. Her heart's action was increased in frequency and force, the pulse being 120 when she came under treatment. She had treatment from an irregular electrician and from most of the pathists of this city, without avail. The electrician employed the interrupted current through the head, a procedure not commendable. The patient had marked insomnia, an impaired appetite and sluggish bowels.

Under gelsemium and the bromides and proto-iodide of mercury, with daily cephalic electrization, eight to twelve elements of a constant current battery—descending current—she so greatly improved in the course of a fortnight that she could distinguish all objects in her room, the lineaments of her physician's and husband's faces, the color of her friends' hair and eyes, etc., in short, to see anything but fine print. Her appetite and general condition every way improved, the sclerotics became normally free from blood, and the sanguineous effusion in the anterior

chamber began rapidly to disappear. Our visits became less frequent after this—every fourth or fifth day. A minimum dose of hyoscyamia had a very unsatisfactory effect, causing much cerebral excitement, and some kalium iodidum likewise discovered in her an idiocyncrasy, causing, in ten grain doses, an intense diarrhoea. These abortive effects greatly prejudiced the patient against our treatment, notwithstanding we had come in as a *dernier ressort* and greatly benefited her, and during our absence at Richmond, she returned to the infinitesimals.

This patient had formerly suffered from malarial congestions, and some years ago fell down unconscious in an apoplectic fit, from which, in a few weeks, she slowly recovered.

The therapeutic lesson of this case confirms what I have so often before clinically proven, that it has become a fixed article of therapeutic faith with me, that for hyperæmic cerebral states, passive effusions and intra-cranial exudations, constant galvanism is the remedy *par excellence*. The current seemingly acts equally well when applied from above downwards, following the direction of the normal nerve influence, from one hemisphere of the cortex down through the basal ganglia and out at the opposite side of the medulla, as when the electrodes are placed so as to impress the cervical sympathetic, namely, behind carotid at the ramus and angle of the jaw, and at the back of the neck above the seventh cervical vertebra.

Dr. Edward C. Mann, of New York, in Vol. VII., part 2, of the *London Journal of Physiological Medicine and Mental Pathology*, reports an interesting case of blindness and deafness, resulting from cerebro-spinal meningitis, successfully treated by him with a constant current, in which he details an experience with the electricity quite in accord with our own. We have never, however, cured a case of post meningitic blindness or deafness from this agent, though we have employed it with a view (and we think successfully) of averting this and other horrible sequelæ of this formidable affection.

The following case, however, is much like the preceding. The details of the case appear more at length in a late number of the *Louisville Medical News*. The case was also verbally reported by us along with a number of others, to the Southern Illinois

Medical Society, which lately met at Anna, Ills. The patient is quite well-known in that section of the country :

Rev. L. is a Presbyterian divine residing in Illinois, of intensely studious habits, preparing his weekly sermons with much research and solicitude. The time habitually devoted to this labor is from the middle of the week until the following Sabbath ; his hours of most intense labor being the night time, rarely terminating before midnight on Saturdays, and later, on other nights.

His congregation is influential, critical and appreciative of his work, which he realizes, and while he has labored with solicitude to fill their expectations of him, and he had none of those feelings of depression which come from a consciousness of unappreciated effort, and is not melancholic. He has, however, realized of late the failure of his mental powers for prolonged studious effort, and has become conscious that he must get relief or abandon his calling.

His symptoms, when he first came under observation, were protrusion of the right eye and inability to distinguish light from darkness with it ; cephalagia with inability to labor mentally without intensifying it : full pulse, 84 per minute, and increased temperature, 99.5 F. on side of blindness ; sluggish bowels ; an ill-at-ease sort of feeling in the daytime, and incapacity for sufficiently prolonged, dreamless and refreshing sleep. to daily recuperate him. He had no catarrh, and there were objective noises in his left ear. Otoscopic and ophthalmoscopic examination gave negative results. *Æsthesiometric* examination gave abnormal and lessened tactile sensibility in the terminal branches of the tri-facial. Giddy sensations were complained of, and his appetite was somewhat impaired. The renal, hepatic, enteric and cardiac functions, save the ganglionic excitation in the latter, were not appreciably abnormal.

The condition of this patient was one of partial paralysis of the vaso-constrictor nervous system, due probably to malarial influences as the pre-determining cause, and to psychical overstrain as the immediate exciting cause. I regard the cerebral pathological condition as one of psychically induced cerebral hyperæmia with meningeal hyperæsthesia and cortex irritability.

The treatment consisted mainly in cerebral galvanization with

the constant descending current daily, of varying strength, enforced brain rest, and chemical restraint imposed by the sodium and potassic bromides in afterpart of day and night, together with all rational efforts to restore trophic and waste cerebral equilibration. The following further history of this case is given by the patient himself :

“ I came into Southern Illinois in the spring of 1876. After being here about a month or two, I took chills and fever. I was troubled with them for about one year. After getting clear of them I began to be troubled with what my physician here called nervous headache. As time passed this grew more troublesome until I had it half or more, probably of my time. In September, 1881, I went north to spend a few days, and while there had severe pains in my head, and was under the necessity of remaining in a dark room for about forty-eight hours. During that time I lost the sight of my right eye entirely. Came back home and staid till last November, when my left eye became somewhat affected, when I placed my case in your hands, or under your treatment. My sight was perfectly restored before I left the city, and since I have had no trouble whatever, so far as they are concerned. I have been able to work ever since I returned home. Have done harder work and more of it than for three or four years before. My head does not trouble me much now. I think I have had headache but once during the last month. I eat well, sleep well, I feel well generally, but I am exceedingly nervous.”

The patient has lost thirty-seven pounds in weight, and complains that he can hardly hold a paper still enough to read it. He will require further treatment for the general nervous symptoms, but the cerebral hyperæmia, meningeal hyperæsthesia and cortex irritability were subdued by the treatment and the concomitant blindness due to the cerebral condition, disappeared simultaneously.

In our view, while the effect of cephalic electrization is to produce diminished circulation within the brain, this effect is often undoubtedly contributed to by a concomitant or precedent tranquilization of the cerebral cells, whose state of excitation induces hyperæmia. The effect on the brain and its meninges may be primary, on the circulation secondary to, and as a consequence

of, the tranquilization of the excited cell movements, in some cases. *An essential property of the constant descending galvanic current in induced cerebral hyperæmia is that of a tranquilizer of irritable nerve tissue*, secondarily contributing to the contraction of over-distended vessels. It acts on the irritable brain like bromides, hyoscyamin and chloral, vasomotor results being secondarily induced when there is over vascular distension as well as primarily accomplished.

Certain effects of cephalic electrization are too immediate to be the result solely of the circulatory changes made by it. For example: the prompt relief of migrain and other hyperæsthetic neuroses of the meninges, as well as in all forms of anæmic and congestive cephalalgias; though it is undoubtedly more effective in the latter.

It is a well-known fact, in regard to certain hypnotics, that they first accelerate and augment in force the cerebral circulation, even while the obtunding of consciousness and the gradual quiescence of the brain is being accomplished, so that to attribute their sleep-inducing power to their influence over the vasomotor system is not logical. They induce sleep under varying states of the circulation, as in opium, alcohol, chloral and bromide slumber, the state of the circulation being different in all. We may fall into error if we attribute the effects of electricity solely to its vasomotor influence.

SECONDARY PUERPERAL HÆMORRHAGE. By PAUL F. MUNDÉ, M.D., Professor of Gynæcology and Obstetrics at the New York Polyclinic; Professor of Gynæcology at Dartmouth College; Gynæcologist to Mt. Sinai Hospital; Visiting Surgeon to Maternity Hospital, New York.

While the occurrence of more or less alarming uterine hæmorrhage immediately after or during the first twelve hours following delivery is by no means uncommon, and while its causation, prevention, and treatment are thoroughly discussed in all the text-books on obstetrics, and in the current medical press, the

subject of metrorrhagia at a later period of the puerperal state, so-called "secondary hæmorrhage," has received comparatively little attention. The majority of obstetric treatises scarcely refer to the possibility that alarming uterine hæmorrhage may occur as late as several weeks after confinement, and only the standard works of Barker, Winckel, Playfair, Spiegelberg and Barnes devote a fair amount of space to this accident. And even these authors, while alluding to individual experience of their own, all refer to the wellnigh exhaustive memoirs of McClintock,* of Dublin, published in 1851, and of Bassett,† of Birmingham, in 1872. Barker and Playfair both remark that this variety of uterine hæmorrhage has not received sufficient notice in the text-books, although, as the latter writer says, it "often gives rise to serious and even fatal results, and is always somewhat obscure in its etiology, and difficult to treat."

As for the medical press, while "post-partum hæmorrhage," that is, the primary and immediate variety, seems a favorite theme, and has even excited the most animated, and at times personal discussions in our obstetrical societies, the, if more rare, not less serious secondary variety, is scarcely ever recorded. It was this very fact, no doubt, which some two years ago induced the learned professor of obstetrics at Indianapolis, Dr. Theophilus Parvin, to write an elaborate essay on this subject, which he read before the American Gynæcological Society at its meeting in Cincinnati in September, 1880, and which is published in Vol. V of the Transactions of that Society. Inasmuch as this admirable series is probably mostly read by specialists, and naturally not as familiar to the general profession as it should be, and the society wishes it were, Dr. Parvin's paper has possibly escaped the notice of many of my readers, as, indeed, I had entirely forgotten its existence (not having been at the meeting where it was read), until after this article was written, when my attention was called to it by a friend. These circumstances, and the comparative rarity and gravity of the accident, are, in my opinion, sufficient reason for the report of the following case, which pre-

* Secondary hæmorrhage after parturition.—*Dublin Jour. Med. Sci.*, May, 1851.

† *Brit. Med. Jour.*, 1872.

sents, in addition, certain peculiarities of special interest, not referred to by Dr. Parvin.

On August 2, 1882, about noon, I was sent for in great haste by Dr. S. Kohn, to see a lady who was said to be in great danger from uterine hæmorrhage. On arriving at the house, I learned from the doctor the following history: Mrs. C. G., twenty-five years of age, mother of three children, had always been in robust health. Was taken in labor on July 16 with her fourth child. Labor progressed very slowly, in spite of severe pains, until the head almost rested upon the perineum, completely filling the pelvic cavity. As no advance was made, and labor had already lasted twenty-one hours, the forceps were applied, but slipped off twice. An hour later, the forceps having again been attempted with the same result, the cranium was opened with scissors, and the forceps were again applied, and again refused to hold. The cephalotribe was then employed, and the head delivered; the remainder of the child was easily extracted. The cause of the difficulty proved to be hydrocephalus. Hæmorrhage was quite profuse, but soon ceased. The placenta was adherent to the right side of the fundus, and required complete separation by the hand. Care was taken to avoid leaving any fragments behind. Two fluid drachms of ergot were administered by the mouth, and all hæmorrhage ceased. On examination, it was found that the anterior lip of the cervix was quite badly torn.

The patient felt well the next day, and appeared to be doing finely for the next six days, although the temperature and pulse kept at 101.5° to 102° and 120 respectively. The lochia were fetid from the third day on; and the uterine injections washed away numerous small shreds and coagula, until the lochia lost their offensive odor.

On July 28, however, the eleventh day, the lochia again became offensive, but the odor was different from that noticed at first; and the discharge was more scanty, serous, with admixture of a reddish-black fluid, like that discharged from under a slough in any part of the body. The temperature now reached 103° for one hour, and then fell to 102° , remaining at 101° to 102° night and morning for several days. On the thirteenth day, July 30, the temperature was 100° in the morning; 101° in the evening. The patient felt quite

well, sat up in bed a little every day, and read the paper. Appetite for solid food absent, but milk, soup, and wine taken in fair quantities. The bladder failed to do its duty, and the catheter was required twice daily. Probably it had been bruised during the long labor and delivery. On the sixteenth day, August 2, at five o'clock in the morning, a profuse hæmorrhage began, which, when the doctor saw the patient at 9:30 o'clock, had almost exsanguinated the patient. Her friends had attached little importance to the flow at that late day, and did not send for him until her weak condition had begun to alarm them. He found her lying in a pool of blood, and immediate interference imperative. The bleeding was arrested for a moment by a hot water intra-uterine injection, but soon recommenced; was again checked by hot injection and tamponade of the vagina, and I was sent for. When I arrived, I found in attendance Drs. S. Kohn, C. A. von Ramdohr, and J. H. Hillyer. The physician who had confined the lady, Dr. Julius Bopp, was not present.

I found the patient with low head, perfectly pallid; face, hands and feet cold and clammy; pulse 120 and very faint; consciousness unimpaired. She merely complained of feeling very weak. On palpating the abdomen, I felt the fundus on a level with the umbilicus, irregular in outline, the right horn extending several inches above the navel. Moderate tenderness. The tampons protruded from the vulva, and were matted together by a moderate amount of bright-red coagulated blood. There was a somewhat offensive odor about the vulva. In spite of the weak condition of the patient, it seemed advisable to remove the tampons and endeavor to arrest the hæmorrhage permanently, which evidently had ceased but temporarily. So long as the uterus was distended by coagula, as at present, no permanent cessation of the bleeding could be expected, and the decomposition of the coagula would but add to the danger by producing septic infection. After preparing fresh carbolized tampons, procuring a few ounces of pure tr. iodine, and a fountain syringe filled with very hot carbolized water, I rapidly removed the tampons, and at once passed my hand into the dilated vagina, and through it into the distended uterine cavity. The latter I found filled with soft coagula, which I speedily removed to the amount of several handfuls. They

were exceedingly offensive, dark-colored, and largely mixed with shreds of decidua. After clearing out the uterus, I found its internal surface very soft, pulpy, and the mucous membrane apparently very much thickened. Near the fundus, the finger easily entered the tissue, and the sensation given was exactly as though the opposing surfaces of endometrium had become adherent, and were separated by my finger. I had felt such a condition but once before, in a case of septic endometritis seen in consultation last spring, which terminated fatally. The endometrium was quite smooth, and there was no evidence of retention of placental fragments. Each horn of the uterus was separated from the main cavity by a circular band, the right horn being the larger. After rapidly cleaning out the uterine cavity, wherein caution was necessary in order to avoid injuring, perhaps perforating, the pulpy wall of the organ, I introduced a long metal tube and washed it out with carbolized water from a fountain syringe, the water being as hot as my hand could bear. The patient's sensibilities were so low in her exhausted condition, that she did not complain of the heat. I then introduced a large cylindrical speculum, through it the tip of a long cervical syringe, and injected half an ounce of pure simple tr. iodine into the uterine cavity, using some force in order to ensure the thorough distribution of the iodine. As it flowed into the speculum I mopped it up with cotton, and then packed the vagina with cotton tampons joined by a cord, and withdrew the speculum. Had the patient not been so weak, I should have applied the iodine and the tampons through Sims' speculum, and perhaps have then tamponed the cavity of the uterus itself. But as it was, the tampons were applied merely as a safeguard against further hæmorrhage in case the iodine failed to check it, and I ordered them to be removed in six hours. The patient's extreme weakness made it imperative that she should under no circumstances lose another drop of blood.

The injection of iodine gave no pain whatever, nor was it followed by shock. But the pulse now became so faint that six hypodermics of brandy were given, and ten drops of aromatic spirits of ammonia, five drops of spirits of camphor, and a teaspoonful of brandy, were ordered in ice-water every half-hour. As an additional safeguard against hæmorrhage, a hypodermic

syringeful of Squibb's fl. extr. of ergot was injected into the subcutaneous cellular tissue of the abdomen, and an ice-bag placed over the uterus. I was so afraid of a return of the hæmorrhage, that I preferred to risk the possible depressing effects of the ergot on the patient, even in her weak state, rather than to omit any reasonable precaution against hæmorrhage. A bottle of hot water was also placed at the feet.

I then left the patient, with directions, after removal of the tampons, to inject the uterine cavity very gently with tepid carbolyzed water, as a preventive against the decomposition of the iodine coagula.

The next morning I received a telegram informing me that the patient had rallied. On visiting her twenty-four hours after the treatment already described, I found her with a circular flush on each cheek, bright eyes; pulse 120 and bounding; temp. in axilla 101.5° . There had been no more hæmorrhage, although the uterus had been washed out several times.

The doctor informed me that soon after my departure on the previous day the patient went into so profound a collapse that he thought she would not rally; she also vomited freely. After a few hours, however, she recovered, and he expressed himself as hopeful of her recovery. I told him that I could but repeat my conviction expressed the previous day, that if she rallied from the hæmorrhage I did not fear its return, but that I very much apprehended the issue of the septic endometritis from which the patient seemed to be suffering. In this opinion I was confirmed by the hectic flush and the peculiar sweetish odor about the patient. I directed tepid injections of a dilute solution (1-6 per cent.) of permanganate of potash into the uterus every three hours, more or less, according to the offensiveness of the discharge; further, salicylate of soda in capsules, ten grains every two hours, if borne by the stomach, in case the temperature should rise above 102° . Otherwise. stimulants *ad lib.* My prognosis was unfavorable.

As I was attending a case of confinement, I begged to be excused from further charge of the case, merely signifying my willingness to be of assistance at any future time if wanted. The remainder of the history I owe to the kindness of the attending physician, Dr. Kohn.

Beginning immediately after the permanent arrest of the hæmorrhage, every means was employed to replace the blood lost, and enemata of meat extract, brandy, and warm salt water were given hourly, as well as frequent hypodermics of brandy. The stomach could retain nothing, even iced champagne being rejected. At 3:15 P. M., temp. 101° ; at 10:30 P. M., 105° ; pulse 132. Reaction had now taken place.

Carbolized intra-uterine injections were employed every three hours.

Aug. 4—Temp., 7:30 A. M., 101.3° ; 10:30 A. M., 102.3° ; 4:30 P. M., 103.4° .

Aug. 5—Intra-uterine injections with sulphate of quinine.

Morning—Temp., 101.3° . Evening—Temp., 102.5° .

Aug. 6—3:30 A. M., 102° ; 7:30 A. M., 100.5° ; 9 A. M., 100.1° ; 12 M., 101.1° ; 8 P. M., 102.1° . Pulse, 114.

Nourishment and brandy taken in good quantity. Sensorium clear. Bowels moved twice after enema. Since yesterday lochia have changed from their putrid to a more natural odor, and appear merely purulent.

A circumscribed swelling is also noticeable to the left of the umbilicus, which Dr. Bopp believes to be an exudation into the broad ligament. An ice-bag was applied. Dr. Kohn thinks this may be an effort of nature to check the disintegrating process going on within the uterus.

Aug. 6—10 P. M. Patient sleeping quietly after an intra-uterine irrigation and an egg-nogg.

Aug. 8—Temp., 100° ; pulse 100 to 110. Lochia profuse and purulent; swelling in left side disappearing. General depression and hectic facies have given way to a feeling of comfort and contentment. Uterus syringed several times daily with a solution of sulph. quinine, $\mathfrak{v}$ i to the quart.

The patient made a very slow recovery, it being fully five weeks after the hæmorrhage, as the doctor informed me, before complete convalescence was established. Only the most unremitting care and constant irrigation of the uterus with sol. potass. permang., with stimulants and tonics, finally succeeded in saving the patient's life. The offensive lochia continued for several weeks after the hæmorrhage.

There are several points of interest in this case which I will review in detail.

1. *The cause of the hæmorrhage* —The conditions which may produce secondary uterine hæmorrhage are enumerated by Barker and Playfair as follows: Constitutional: Hemophilia; mental emotion; functional disease of liver (?); incautious use of stimulants; sudden assumption of the erect position. Local: Irregular and inefficient contraction of the uterus; clots in the uterine cavity; portions of retained placenta or membranes; retroflexion of the uterus; laceration of the vagina or vulva; laceration or erosion of the cervix; ("inflammatory ulceration of cervix" Bennett); malignant disease of cervix; pelvic cellulitis; inversion of the uterus; premature sexual intercourse; loaded rectum.

To these I would add one cause which these two authorities do not mention, but which Winckel speaks of, and which I have repeatedly seen as the reason for secondary internal hæmorrhage during the first forty-eight hours after labor, namely, the distended urinary bladder. Uterine contraction is interfered with by the enlarged bladder, the uterine cavity fills with blood, and the fundus is found pushed to one side, and even as high as midway between umbilicus and diaphragm. A case is mentioned by Winckel, in which a similar result was produced by a recently developed ovarian cyst, which dragged the uterus up and interfered with its contraction. Profuse hæmorrhage occurred on the third day.

Forcible straining during defecation may also dislodge newly formed thrombi at the placental site. And four cases are mentioned by Winckel in which secondary hæmorrhage occurred during a chill. It is quite plausible that the form of malarial infection known as a "congestive chill" may, by the powerful determination of blood to the internal organs, produce a uterine hæmorrhage even at a late day after confinement. Indeed, Playfair cites Saboia as authority that in Brazil, secondary puerperal hæmorrhage is a common symptom of malarial poisoning, and can only be cured by change of air and the free use of quinine. And Barker, in his well-known paper on "Puerperal Malarial Fever,"* reports five cases in which secondary hæmorrhage

* *Amer. Jour. Obst.*, April, 1880.

appeared after the twelfth day, apparently as the result of malarial fever; in two cases the hæmorrhage was alarming. Hanks also reports a case of serious secondary hæmorrhage from the same cause.*

General febrile disturbances (exanthemata, typhoid fever, rheumatism, pneumonia, etc.,) occurring during childbed, may, by means of the greater circulatory activity existing at such times, also cause secondary metrorrhagia.

A cause upon which great stress is laid by Winckel is too early getting up; at least sixteen per cent. of the lying-in women under his care lost blood (in small amount, of course) on the ninth day, soon after leaving their beds for the first time. Still another cause, in which I am particularly interested in this instance, is also spoken of by Winckel, and, so far as I can find, by him alone, and that is, diseases of the inner surface of the uterus, chiefly endometritis. This, Winckel says, is one of the rarer causes of secondary hæmorrhage, which may be due either to the congestion of the endometrium, or (especially in the diphtheritic form) to erosion of the already occluded vessels of the placental site, by sloughing, I presume.

When I was asked by the gentleman first attending the present case, what I thought to be the origin of the hæmorrhage, I replied that the patient seemed to me to be unquestionably suffering from septic endometritis, with a decided hyperplasia of the endometrium, a species of fungoid proliferation; the constant rise of temperature during the week, with the offensive lochia, seemed to speak for this assumption. The bleeding I believed to be due to a superficial sloughing of more or less of the surface of the hyperplastic endometrium. At that time I was not aware that puerperal endometritis is cited as one of the causes of secondary hæmorrhage. I now think it quite possible that a deeper slough, probably at the placental site, took place, and that the newly formed thrombi were dislodged. This supposition seems more plausible than that of a universal oozing, since Spiegelberg says that septic endometritis, by its obliteration of the superficial vessels, prevents secondary hæmorrhage. I presume we have all seen the newly

* *Am. Jour. Obst.*, Jan., 1880.

formed decidua in post-mortems from septic endometritis changed into a pulpy, fibrinous mass.

Of course, this view of mine could have been confirmed only by an autopsy; but I can positively assert that no fragment of placenta remained in the uterus, that no deep fissure in the uterine wall existed, and that the endometrium was perfectly smooth. If I am correct, we must consider secondary hæmorrhage a possible additional danger to be apprehended from, and guarded against in, puerperal septic endometritis, a disease surely quite serious enough by itself.

2. *The date of the hæmorrhage after delivery.*—The time at which secondary hæmorrhage is liable to occur varies greatly in accordance with the character of the labor, the care taken of the third stage, the precautions employed during childbed, and accidental circumstances. As a rule, it may be assumed that the more thoroughly and carefully the contraction of the uterus has been assured after delivery of the placenta, and its relaxation guarded against, for some hours at least, the less likely is early secondary hæmorrhage, that is, within the first forty-eight hours, to occur. In institutions where stringent rules exist as to the supervision of the uterus after delivery, and the firm contraction of the organ is insisted upon before the attendant leaves the patient, it is a rare thing to find the uterus distended with blood after the first twelve hours have elapsed. Thus, Winckel cites but three cases out of fifty in which the hæmorrhage occurred during the first three days after delivery. The same proportion will be found in the practices of those physicians who follow the rules referred to, chief among which are the maintenance of firm contraction of the uterus by gentle friction of the abdomen for at least half an hour after the expulsion of the placenta, and the administration of ergot (generally one drachm of the fl. extr. suffices) immediately after the birth of the child. If these rules are neglected, and chiefly if friction is not kept up long enough until permanent contraction is assured, in a few hours the uterus again relaxes, blood oozes from the placento-uterine sinuses, and at the next visit the physician finds himself obliged to express a coagulum of greater or less size, if nature's provision, the after-pains, has not forestalled him. In a recent case which I saw in

consultation for an excessive laceration of the perineum, about forty hours after delivery, I found a full bladder and a uterus distended by a dark, soft coagulum of about the size of a fist.

Between the third and tenth days Winckel found eighteen cases of hæmorrhage, for the most part of moderate degree. This frequency must be partly attributed to the exertion of getting up, since most of the women left their beds on the tenth day. Of the whole fifty cases, in twenty-six the hæmorrhage occurred after the tenth day. This last proportion is unusually large, and I am at a loss to account for it, since Winckel omits to give particulars of these cases. As a rule, hæmorrhage occurring or continuing after the woman leaves her bed is due to retention of some small fragment of placenta (chiefly after abortion), or to deficient involution of the uterus, or occasionally to sloughing of the endometrium. I have already stated that, in my opinion, the hæmorrhage in the present case was due to the last-mentioned cause. Bassett * mentions four cases in which the bleeding was due to retention of portions of the placenta or membranes, and came on the tenth, twelfth, fourteenth, and thirty-second days; Barker refers to instances as late as the fifth or sixth week after delivery, and Helfer speaks of one during the fourth week. The oozing which is so frequently found as a consequence of subinvolution and deficient contraction of the uterus, especially after abortion, and after normal labors in flabby, atonic, anæmic women, may last for months, and only ceases after general tonic and astringent local treatment. In these cases the return of the first menstrual epoch is frequently marked by an unusually profuse flow.

Laceration of the cervix during the recent labor exerts an unquestionable influence in prolonging the oozing from the uterus, both by means of interference with involution and through direct hæmorrhage from the rent itself.

3. *The diagnosis of secondary uterine hæmorrhage* need be mentioned only to point out that in the early cases the outlines of the uterus should always be clearly defined, since the hæmorrhage may be wholly internal, and be suspected only by the pallor or collapse of the patient. At a later date, when the uterine cavity is

* *British Med. Jour.*, 1872.

smaller, the discharge of blood from the vagina of course reveals the nature of the case. The cause of the hæmorrhage, however, may not be so easily ascertained, especially in the later cases, when it may be necessary to dilate the uterine cavity by tents or rubber tubes in order to make the diagnosis by introduction of the finger.

4. *The significance of secondary hæmorrhage* depends partly upon the amount of blood lost and escaping, and partly on the origin of the flow. The sooner the patient is seen and the flow controlled, of course, the less dangerous the case. Hæmorrhage depending on mere temporary atony of the uterus, which can ordinarily be checked at once by friction, compression, and styp-tics, is evidently less serious than if due to sloughing of the placento-uterine thrombi or bursting of an ectatic vein. While Spiegelberg, who speaks of having seen one serious case of hæmorrhage on the fourth day from simple atony of the uterus, and a number of other severe hæmorrhages from retention of portions of the secundines, did not lose a case, Bassett had two deaths out of thirteen cases, and McClintock collected six fatal cases. Mme. La Chapelle mentions a case of death on the eighth day from internal hæmorrhage and retention of the clot. Barker relates an instance of almost fatal hæmorrhage on the second day from mental emotion, and McClintock one on the twelfth day from taking a dose of brandy while sitting up for the first time, and another on the eighth day from mental excitement. In my case, there can be no doubt that even a very slight additional hæmorrhage would have proved fatal. The occurrence of serious or fatal hæmorrhage at a later date than the fourteenth day after delivery is certainly very rare. The chief evil consequences of protracted secondary hæmorrhage, metrorrhagia lochialis, as Breisky * calls it, is the debilitating effect on the woman, and subsequent uterine disease of some form or other.

5. *The means employed to check the hæmorrhage.*—The injection of pure tincture of iodine into the uterine cavity as a hermostatic after delivery has been recommended by Dupierris and Lente, and practiced by many others in occasional cases; the

* Breisky; Treatment of Puerperal Hæmorrhage, *Volkmann's Klin. Vorträge*, No. 14, 1871, p. 108.

excellent effects of the agent in non-puerperal hæmorrhage have been warmly praised by Thomas Addis Emmet, whose example has been followed by many of us. I am not aware that iodine has been used as an injection in secondary hæmorrhage, but there is no reason why its styptic effects should be less pronounced than immediately after delivery. Besides, it is an excellent disinfectant, which was of importance in the present case. It does not form hard coagula, as does the tr. of perchloride of iron, which coagula are liable to decompose and give rise to septic infection, or by their presence excite fresh hæmorrhage. I might, it is true, have employed the mixture in equal parts of the tr. ferri perchloridi, or persulphatis and glycerine, according to the practice of Dr. H. P. C. Wilson, whereby the formation of coagula does not take place. And had the hæmorrhage returned, I should undoubtedly have employed this formula. As it happened, the iodine first occurred to me, and proved effectual.

The method of injecting the iodine through a cylindrical speculum is to be recommended, as a means of saving the vagina and vulva from the unavoidable contact with the fluid if the latter is simply injected into the uterus under guidance of the finger. In the present case, finding that I could not pass the nozzle of the syringe quite to the fundus through the speculum, I first inserted the syringe, and then passed the speculum over it.

As regards the application of a tampon after labor, I need scarcely say that it should never be done unless the uterus is so contracted and constantly watched that no internal hæmorrhage can take place. In the present instance, doubtless, the tampon which I removed had caused the accumulation of blood in, and the distension of, the uterus; but it had arrested the external hæmorrhage, which was far more severe than the internal bleeding was likely to be. Besides, at so late a period as sixteen days after delivery, the attending physicians were to a great extent justified in not looking for so easy a distensibility of the uterus. I re-applied the tampon temporarily as a possible safeguard against external hæmorrhage until the patient had had time to rally a little, and with the positive understanding that the fundus uteri should be carefully watched until the tampon was removed.

The hypodermic of ergot was administered more for its specific

hermostatic effect, than with any idea of contracting the uterine muscle, which, in its inflamed, pulpy condition, seemed incapable of healthy contraction. In the collapsed condition of the patient, this agent might possibly have been omitted. Still, it did no injury.

It is possible that the hot water injection might have been sufficient to check the bleeding. I thought, however, that it was best to take no chances, but to do the work thoroughly.

As a rule, it may be assumed that the same remedies and measures which are used to check primary uterine hæmorrhage will be effectual in the secondary variety. Even when the hæmorrhage occurs at a late date after delivery, the agents which act chiefly by contracting the uterine muscle, as ergot, viscum album, fl. ext. gossypium, ustilago maidis, etc., will prove useful, as well as the general styptics, like sulphuric acid, cannabis indica, matico, etc. In cases where the hæmorrhage depends on pelvic congestion, saline laxatives, combined with or followed by ergot and sulphate of iron, will be serviceable.

In the earlier periods after delivery, the clearing out of clots from the uterine cavity with the hand, and the excitation of the organ to contraction by external and internal friction, then, if still necessary, the intra-uterine injection of styptics, will be indicated. At a later date, when the uterus has already undergone a certain degree of involution and the cavity is small, the repeated introduction of astringents into it on cotton cones slipped off from applicators, and the firm columnar tamponade of the vagina with flat discs through Sims' speculum, may be required. The latter are more usually cases of protracted bloody lochial discharge, or of constant sanguineous oozing due to subinvolution. The eventual closure of a cervical rent will become imperative after a lapse of at least two months after delivery, if the flow seems to depend on this injury. By the introduction of pure tr. iodine into the uterine cavity on cotton-wrapped applicators, which are immediately withdrawn, about twice a week for several weeks or months, I have in a number of instances achieved a complete cessation of the bloody oozing, a return to regular menstruation if the patient chanced not to be nursing, and a complete involution of the uterus. It has not been my intention

to go over the whole ground of secondary puerperal hæmorrhage, or to take up separately each of the etiological factors enumerated in the early part of this paper. For a discussion of these, I will refer to the works of Barker, Winckel, and Playfair, or to the original memoir of McClintock, to which, Playfair says, "We owe almost all our knowledge of this condition;" and to the paper by Parvin. I merely desire to add another case to the comparatively few on record, and by pointing out some of its peculiar features, perhaps draw out the experience or opinion of the profession.

Before concluding, I wish to say a word as to the prevention of these hæmorrhages, primary and secondary. Assuming a firm, permanent contraction of the uterus after delivery to be a cardinal principle for the prevention of post-partum hæmorrhage, the following brief rules may be laid down for the management of the third stage of labor, and the early puerperal state:

1. Always keep the supporting and compressing hand on the fundus uteri from the moment the head appears at the vulva until the placenta is expelled.

2. Do not hasten the expulsion of the placenta too much, but by steady, gentle friction of the fundus endeavor to obtain its total spontaneous detachment, the occurrence of which can easily be detected by the uniform firm outline of the contracted uterus on palpitation.

3. Always watch the uterus with the hand, using gentle friction for at least an hour, at intervals, before leaving the patient.

4. Always give ergot (one drachm or more of the fl. extr.) by the mouth immediately after the birth of the child. If chloroform has been given for an operation, or if the labor has been unusually tedious, give the ergot hypodermically, injecting a syringeful of the fl. extract to the depth of one inch, near the umbilicus. It is always advisable to have the syringe filled with ergot, and to see that it is in good working order, before the conclusion of the labor.

5. Always have ice on hand; and if the uterus shows a reluctance to remain contracted, rub the fundus gently with a piece of ice, or insert a cone-shaped piece into the cavity. (As a rule, the injection of hot water, while a powerful styptic,

is less agreeable to the patient at this time, and will scarcely be employed unless actual hæmorrhage occurs.)

6. Always make sure by palpation and compression that the uterus contains no coagula, and if such still form, at once express them.

7. Aid in securing permanent contraction of the uterus by an early application of the child to the breasts.

8. If the labor has been tedious or instrumental, or the uterus contracts badly, or the patient is not to nurse the child, or is constitutionally feeble, it is wise to guard against subinvolution and a long continuance of the bloody lochia, by giving the patient a pill containing one or two grains of Squibb's aqueous extract of ergot, two grains of quinine, and one-third of a grain of extract of *nux vomica*, three times a day for ten days or two weeks, or longer, beginning on the day after delivery. If the stomach is irritable this combination may be given in rectal suppositories, the quantity of ergot being doubled.

9. Before leaving the patient, an equably tight binder should be applied, and if there be tendency to hæmorrhage, a pad should be placed under the binder over the fundus, to secure its steady compression.

10. Examine the cervix and vagina with the finger immediately after delivery, and if there be a laceration of either, be prepared to check possible future oozing by mild astringent injections, or, if need be, applications through the speculum. (Immediate suture, as recommended by some, appears to me rarely feasible, under the conditions as to light, assistants, hæmorrhage, etc., usually accompanying childbirth).

11. Do not allow a lying-in woman to make rapid motions in bed, strain, sit up suddenly or very long, or to leave her bed before the tenth day.

12. Keep watch of the bladder, particularly during the first twenty-four hours, and assure yourself by palpation and percussion that it is empty and is not interfering with uterine contraction.

13. Instruct the nurse not to insert the nozzle of the syringe too far, or to use too much force in giving the customary cleansing injections, for fear that the cervix may be bruised.

These rules might be extended, but I am confident that if those here given are carefully observed, primary hæmorrhage will be greatly diminished in frequency, and secondary bleeding, particularly of the atonic and subinvolution type, will rarely be met with. Those cases in which accidental causes are at fault, will, of course, be as little under our control as heretofore.—*Archives of Medicine*, Feb. 1883.

A LECTURE ON THE FREQUENT REPETITION OF DOSES. DELIVERED AT THE BELLEVUE HOSPITAL MEDICAL COLLEGE, by A. A. SMITH, M. D., Professor of Materia Medica and Therapeutics, and of Clinical Medicine.

GENTLEMEN: I propose to direct your attention this morning to the subject referred to at my last lecture, namely, the frequent repetition of doses. This subject is a very important one, and one regarding which it is very difficult to establish any arbitrary rules. In the case of chronic diseases, where it is necessary to continue the treatment for a long time, the plan of administering the medicine in larger doses at intervals of five or six hours is probably the best one which can be adopted. For example, if you were prescribing some preparation of iron in a case of anæmia, it would be unnecessary to give it oftener than three times daily. Again, in certain cases it may be desirable to produce the full effect of the drug at a single dose, as in the administration of a cathartic, or of quinine to reduce temperature.

In other cases, however, it is desired, in administering medicinal remedies, to keep up their continued effect, and the question arises, whether we can accomplish this purpose better by giving them in smaller doses at frequent intervals than by giving them in large doses at much longer intervals, the total amount of the drug in the end being, perhaps, the same in either case. It is a fact with which you are acquainted that certain drugs become absorbed and produce their effect upon the system in a very short time, and they may also be eliminated very rapidly, while others act slowly and are eliminated after a longer interval.

It is not my intention this morning to deliver a scientific lec-

ture; I shall make certain statements based upon clinical facts for which I shall not attempt to give any explanation.

The first drug to which I would call your attention in connection with the subject of the lecture is the chlorate of potash. It may not be unknown to most of you that this drug has at times been administered in sufficiently large doses to produce a dangerous inflammation of the kidneys. Special attention has been called to this fact by Dr. Jacobi, of this city, and also by other authors. This danger can be avoided by administering the drug in small doses frequently repeated. In writing the prescription, a teaspoonful of the solution may be made to represent as much of the drug as you wish to give; or, if it be in a mere concentrated form, the patient may add water to it. Grain doses given every half-hour in scarlet fever, diphtheria, tonsillitis, etc., will produce the same results as larger doses, without the danger of the evil effects resulting from the accumulation of the drug in the system, as sometimes happens when it is administered in the ordinary way. Indeed, I believe they will produce better results upon the throat inflammations.

For the treatment of neuralgia, croton chloral has for a long time been given in large doses, as from five to eight grains, repeated every two hours, until fifteen grains are taken. But allow me to suggest what I consider a better mode of administering the drug—that is, to give a grain of it, prepared as you please, either in liquid or pill form, every half hour until the neuralgic symptoms are relieved. A solution of which a teaspoonful represents a grain of the croton chloral may be made, having scarcely any of the bad taste which usually belongs to this medicine when given in large doses. I may here remark that one of the important advantages connected with the frequent repetition of doses is the fact that the medicine may be so largely diluted with water or other vehicle as to be rendered comparatively tasteless, and harmless to the mucous membrane of the stomach.

You will often be called upon to treat very obstinate cases of urticaria, and you will be put to your wits' end to know what to do. The plan ordinarily suggested is to give alkalis, as the bicarbonate of sodium, or magnesium; but, if you will give the patient two grains of the salicylate of sodium every hour or half-

hour, you will usually be enabled to effect a cure even in obstinate cases, except those of a chronic nature. Two grains of the salicylate of sodium administered in a teaspoonful of water is almost tasteless, and may be given without producing disturbance of digestion. Urticaria is often caused by the administration of full doses of balsam of copaiba in cases of urethritis, or inflammation of other mucous membranes, and it may seem strange to you when I make the statement that a single drop of the same drug given every half hour will sometimes control urticaria. I have no explanation to offer, but I make the statement not alone upon the authority of others; I myself have often observed the efficacy of the treatment, although not so frequently as in the treatment by the salicylate of sodium.

Fowler's solution, or the liquor potassii arsenitis, half a drop given every half-hour for six or eight doses, will often relieve the vomiting which occurs after a debauch. It will also relieve the morning vomiting of drunkards, and is of decided benefit in the sympathetic nausea and vomiting of pregnancy.

Jaborandi has been given in large doses with a view to exciting perspiration in cases of Bright's disease, but the very serious objection has been found to its administration in this manner, that it sometimes has a very depressing effect upon the heart's action, resulting in some cases fatally. Now, five to ten-minim doses of the fluid extract of jaborandi given every hour or half-hour will produce marked perspiration without causing any unpleasant effects upon the heart. I sometimes combine with the jaborandi the tincture of digitalis, with a view to counteract any possible evil influence which the former drug may have upon the heart. So dangerous do I consider large doses of jaborandi that I often hesitate long before administering it, especially in the uræmia of the puerperal state.

You will please remember that the amount of the medicines administered is not so small as you may at first suppose, especially if you take into consideration their strength and the frequency of their repetition.

The next preparation of which I shall speak is a solution of the sulphate of atropine, one one-hundredth of a grain in a goblet of water, a teaspoonful of which shall constitute a dose, amounting

in all to about sixty doses. Now, you will often be called to see cases of supposed croup, but which, in the majority of instances, prove to be cases of false croup of a reflex origin. Ordinarily, you will be able to relieve these patients by giving them a teaspoonful of this preparation every hour. It is possible the remedy acts slightly as a stimulant of the respiratory center; it is also possible that it has some influence upon muscular contraction or relaxation; at all events, clinical experience proves that it is of benefit in these cases. The dose may be repeated every hour or half-hour, according to the severity of the attack. If the child's face begins to flush and show signs of the physiological effects of the drug, the dose can be reduced in frequency. It should be remembered that when thus administered the equivalent of a full dose of the drug will soon be reached. Do not forget in these cases to give an emetic if there is anything in the stomach which may be causing the spasm, or a cathartic if there be reason to suspect intestinal disturbance as the cause.

The bromides are largely used in the treatment of the nervous and febrile disturbances of children, but an objection to them is the fact that the little patients do not take them readily, because of the taste; the bromide of sodium is, perhaps, as little disagreeable as any of the preparations. This objection can be avoided by giving small doses frequently repeated; for instance, a few grains dissolved in half a tumblerful of water, a teaspoonful representing a half grain, or a grain even, administered every ten or fifteen minutes. When given in this manner, the bromides often prove of great benefit in the nervous disturbances arising from dentition and other causes, and in relieving the fever which, in children, usually attends a slight degree of excitement of any kind. I have seen an elevation of the temperature in children where it could not be traced to any other cause than the excitement incident to their afternoon play. A temperature which might indicate a sickness of considerable gravity in the adult, if it occur in a child may be of comparatively little importance. In such cases the bromides, administered in small doses, say a grain or two at intervals of ten or fifteen minutes, will often prove of great benefit.

I began the use of some of these remedies administered in this

manner on the recommendation of others, and I must say in a somewhat skeptical frame of mind, thinking that the effect which they produced was probably due to the moral influence upon the patient, or that it had no foundation in fact, it being a mere coincidence that the drugs were administered at a time when the patients would have recovered in the absence of any treatment; but, having seen benefit follow their administration repeatedly, I concluded they must have a wider range of usefulness, and began to use them much more frequently.

You will often meet with children of a nervous, excitable frame of mind, who are, perhaps, naturally of a sensitive, nervous temperament, who are disturbed by the slightest noise, and are unable to go to sleep before ten or eleven o'clock at night. In such cases you will find it necessary to give a nervous sedative. An excellent effect will be produced by chamomilla in some one of its forms, as the tincture, administered in minim doses, every fifteen or twenty minutes. It is tonic as well as sedative. It is a better sedative in such cases than the hydrate of chloral, which is liable to affect the digestion. It is harmless when given in larger doses. Put a teaspoonful into a half-tumblerful of water, and let the child drink it freely.

One of the most important remedies which can be administered with great benefit in frequently repeated doses is ipecac. You are aware that a teaspoonful of the syrup of ipecac is likely to produce emesis; but it is also a fact, regarding which I was at first quite skeptical, that a single drop of the wine of ipecac will often arrest obstinate vomiting. It should be repeated every ten or fifteen minutes. When administered in this manner, I have often known it to relieve vomiting from different causes, among which are pregnancy and subacute gastritis. Children often vomit from very slight causes, and are liable to suffer from diarrhoea and vomiting which have no other assignable cause than disturbance of digestion. A single drop of the wine of ipecac, repeated every fifteen or twenty minutes, will often produce the most marked relief, both from the vomiting and from the diarrhoea. Administered in this manner, the drug is not nauseous, and is easily taken.

I now make a statement, upon the authority of Trousseau and

his enthusiastic successor, which may appear to you, as it once did to me, incredible—viz., that one sixtieth of a grain of calomel taken every hour for ten or twelve hours will relieve the headache of syphilis occurring at night. I have administered it in one-fortieth grain doses in this manner and have obtained the results which they claimed for it, but I have not yet tried it in sixtieth-grain doses. The relief was very marked by the second or third night. It is not intended to take the place of iodides which are given in such cases. Doubtless the calomel, when administered in such small doses, is all taken up into the system.

Nursing children often vomit or regurgitate their food; this has been relieved repeatedly in my experience by giving them a teaspoonful of a solution of one grain of calomel to the pint of water every ten or fifteen minutes. In order to dissolve it, the calomel should first be put into an ounce of lime-water, and then into the pint of pure water. One twenty-fourth of a grain of mercury with chalk, administered every fifteen or twenty minutes, is often of great benefit in the vomiting and non-inflammatory diarrhœa of children. Where the diarrhœa is accompanied by mucous passages, indicative of a certain degree of inflammatory action, or enteritis, benefit will be derived from the administration of one teaspoonful of a solution of bichloride of mercury (corrosive sublimate), one grain to the quart, every hour. The dose may seem very small, but it must be remembered that the dose for an adult is only one sixtieth to one thirtieth of a grain, and, when administered in this manner, the full dose for a child is reached within a few hours.

Another extraordinary statement, which at first seemed to me to be fabulous, and may seem so to you, but which, nevertheless, you will find to be based upon clinical facts: Put a grain of tartar emetic into one quart of water; teaspoonful doses of this solution every half-hour will prove effectual for the relief of the wheezing and cough accompanying a slight bronchitis in children.

A single drop of the tincture of *nux vomica* given every ten minutes will often produce most marked relief in sick headache not of a neurotic origin. It should be given immediately after or soon after meals.

It is well known that cantharides, when given in large doses,

is liable to cause inflammation of the urinary tract; but it has been found that a single drop of the tincture every hour will in many cases relieve vesical catarrh.

You probably have heard that digitalis has been used in cardiac disease. Certainly if you have not heard of it you will, and, if you have already heard of it, you will hear of it again, particularly at the clinics. Ordinarily, it is administered in considerable doses only three or four times a day; but I do not hesitate to say that the frequent repetition of small doses will produce much more benefit than larger doses at longer intervals. A single drop of the tincture of digitalis, given to a patient suffering from symptoms due to organic heart disease when digitalis is indicated, administered at intervals of an hour or half-hour, according to the severity of the symptoms, will often give greater relief than larger doses, and without liability to ill effects.

For the diarrhœa of children, accompanied with slight inflammation, straining, and the passage of jelly-looking matter, but not true dysentery, five drops of castor-oil, given every hour in water with sugar and gum, is an excellent remedy.

A gentleman in this city, of authority in the specialty of venereal diseases, says he has given greater relief in a short time, in cases of orchitis and epididymitis, by the administration of two-minim doses of the tincture of pulsatilla every hour than by any other mode of treatment. I can testify to the great benefit derived from the drug administered in this manner in dysmenorrhœa not of a membranous, obstructive, or neuralgic character.

One of the most distressing symptoms from which many women suffer at the menopause is flatulence, and a sensation of fluttering or palpitation at the pit of the stomach, an effectual remedy against which is the extract of calabar bean in one-fiftieth-grain doses, repeated every half-hour for six or eight doses. It may be repeated in the same way after stopping it for three hours.

In cases of amenorrhœa not dependent upon anæmia, benefit may be derived from minim doses of the fluid extract of ergot administered every half-hour for five or six hours the day before the flow should begin, and again on the day on which it should

occur. Contradictory as it may seem, when administered in the same manner the fluid extract of ergot is of benefit in cases of excessive menstruation.

Aconite is one of the drugs to which you will probably have occasion to resort frequently when you enter upon the active practice of medicine. It has for a long time been used in quite small doses, but not so frequently repeated as it might be with benefit. There are many cases of febrile movement, with dry, hot skin, a full, bounding pulse, the mucous membrane of the throat and nose probably dry—cases in which the febrile movement is not the commencement of one of the continued fevers; the tincture of aconite, one third to one half a minim given every fifteen minutes, will be found of decided benefit. Visiting the patient shortly after the commencement of this treatment, you will often find him in a little perspiration; the medicine may then be administered at longer intervals, every half-hour or longer, according to the indications. The tincture of aconite, administered in a similar manner, is also useful in cases of commencing so-called cold in the head. It is likewise useful in cardiac hypertrophy with palpitation, severe headache, and disturbances of the nervous system due to increased force of the heart-beat.

Two minims of the tincture of hamamelis every half-hour will often control hæmorrhages. I was at first inclined to look upon this statement with a great deal of distrust, but I have since tried it in cases of hæmorrhage from the nose, from the uterus, and in the hæmorrhage from hæmorrhoids, and have found it of great benefit.

The tincture of belladonna in minim doses, given every half-hour, is a good remedy in cases of nasal catarrh, and bronchitis accompanied by free secretion. You should cease to give the drug for a while after eight or ten doses have been administered, as it is less quickly eliminated from the system than the other medicines of which we have already spoken. In cases of pulmonary œdema with failure of heart power, belladonna thus administered is of benefit in retarding the exudation of serum, and in overcoming the failure of heart power.

Two grains of the chloride of ammonium, combined with ten

or fifteen minims of the tincture of cubebs, given every half-hour, oftentimes controls acute pharyngitis and superficial inflammations of the other tissues about the throat. For inflammation of the throat dependent upon a gouty diathesis, add to this mixture ten minims of the ammoniated tincture of guaiac, and administer every hour.

In the headache of migraine, one grain of the citrate of caffeine given every half-hour will often produce most marked relief.

In neuralgias about the face or head, three-minim doses of the tincture of gelseminum every half-hour will often act almost miraculously and leave no ill effects.

For certain kinds of headaches (especially those which are periodical and not of malarial origin), fifteen-minim doses of fluid extract of guarana given every fifteen minutes will very frequently relieve. If it does not relieve in four doses, increase the dose to thirty minims.—*New York Medical Journal*.

CLINICAL LECTURE*. By DAVID W. CHEEVER, M. D., Professor of Surgery, Harvard University.

I. CELLULAR ABSCESS.

Gentlemen :—The first case which I bring before you to-day is that of this little girl, who came here a week ago with a hard bunch upon her left wrist. This bunch has now softened. It gives rise to great apparent deformity and protrusion of the ulna, which appearance, however, is deceptive. The wrist-joint moves freely in all directions, without pain. There is a sac containing pus, which I proceed to incise. If the pus is due to caries, the disease at all events does not affect the joint, and it is doubtless merely an inflammation of the cellular tissue.

II. PUNCTURED WOUND OF HAND; LIGATURE OF THE BRACHIAL ARTERY.

This little boy, about six years of age, nearly three weeks ago drove a penknife into his hand, in the neighborhood of the

* Specially reported for the Boston Medical and Surgical Journal.

first carpo-metacarpal articulation. The immediate hæmorrhage was slight. One week after the injury, however, profuse secondary hæmorrhage occurred. The physicians in attendance prolonged the original incision from the *tabatiere* toward the seat of the radial artery in the wrist, and made an attempt to secure the bleeding vessel, but without success. A firm compress was then applied to the hand, and the boy was sent from his home, two hundred miles distant, to Boston, where he arrived exhausted and pale from the amount of blood that had been lost. On taking off the twist from the hand I found a foul suppurating cavity at the site of the incision; also a superficial slough on the ulnar side of the hand, due to pressure of the bandage. No blood appeared from the vessel, but there was reason, in view of the bad condition of the parts, to suppose that hæmorrhage would recur. I therefore ligatured the brachial artery. The operation was performed under the spray, and Lister dressings were applied. This was eleven days ago. While there has not been absolutely first intention, the wound has practically healed, as you see, the granulations having come up to the level of the skin. The ligature, which was of catgut, never came away, and there is reason to believe that it has been absorbed. There is no further danger, now, of secondary hæmorrhage, and the child can go to his home in a few days.

There are two points worthy of attention in this case. First, the safety of tying the brachial, so far as concerns danger of mortification of the hand, and its advantages as serving to secure the interosseous arteries. By applying the ligature to this vessel, we also avoid the neighborhood of the sloughing tissues about the wound. Secondly, the prompt establishment of the collateral circulation. On the eighth day after the operation I detected pulsation in the ulnar artery, and on the ninth it was observed in the radial. It is now perfectly restored in both. In this case the nails have retained their bright pink color throughout, and the hand has been warm.

III. ULCER OF THE UPPER LIP.

This man as you will observe, has upon his upper lip an ulcer, with ragged, hard edges. It has been there for six or seven

months. He has also had for the past three months venereal sores upon his privates, which have not healed yet. These sores, however, seem to be antedated by that upon the lip. The question in this case is whether the man has a primary specific sore upon the lip, or whether the ulcer is a degenerating epithelial growth. The patient himself ascribes the sore to irritation from a pipe, aggravated by neglect. I can detect no enlarged glands in the neck, and there appears to be no soreness on either side.

It is important to decide on the nature of this sore within a few weeks for the sake of the treatment. The man says he has taken no medicine. We will therefore put him at once upon a course of mercurials, and follow it up vigorously for three or four weeks, either alone or in connection with the iodide. If by that time the sore has not begun to heal, it should be excised.

IV. ACUTE SYNOVITIS OF THE WRIST.

This lad is in the employ of a tailor. He tells me that he is not called upon to do heavy lifting or other work which would be likely to strain his wrist. He had previously been in good health, when suddenly, six days ago, he was taken with pain in the wrist, without having had any injury. Stiffness, swelling, and deformity came on at once, preventing the use of the hand. The hand appears pushed over to the radial side. The swelling is confined to the ulnar side, and there is great tenderness through the ulnar articulation. He tells me that this is the only point affected, and that he never has had rheumatism. The localization of the trouble makes it look like acute synovitis, which, in the absence of any strain or injury, may be of rheumatic origin. As to the treatment, we will begin with the theory of rheumatism. The hand should be placed on a splint; we will give him colchicum internally, and locally lotions of laudanum and camphor, to be followed later by iodine. If the disease is rheumatism it will probably be relieved by this treatment. If synovitis it will assume an indolent type, and continue a long time.

V. COMPLETE CONGENITAL EXTROVERSION OF THE BLADDER.

While the next patient is being etherized I will say a few words above the case, and will then demonstrate the pathological

condition, and afterwards perform the operation in your presence. It is a girl, six years of age. She presents a defect of foetal development. The anterior abdominal walls have never completely closed along the median line of the body. There is no umbilicus. The recti muscles separate at a point above where the umbilicus should be, and spread out at an angle, until they become attached to the pubes at quite a distance one from the other. The pelvic bones themselves are separated by a wide interval. The anterior wall of the bladder is absent, and the posterior surface of the mucous membrane is presented to view with the ureters discharging upon it. The interior of the bladder is thus exposed to the air. When the patient is at rest the exposed surface is comparatively flat, but when she coughs, vomits, or strains, it rises up and is pushed forward, in shape and size like a billiard ball; it then bleeds readily, and, as you can imagine, is much irritated by the clothing. There is no urethra, clitoris, or nymphæ. The labia majora lie to the sides by the separated pubic arch. There is a rudimentary vagina, which, as has been noted in other similar cases, lies transversely. The probe enters the vagina an inch and a quarter, and sweeps on either side into a pouch, which is the analogue of the Douglas cul-de-sac in the normal female. The finger introduced into the rectum discovers a small ovoid body, which is probably the rudimentary uterus. The rectum itself appears to be normal.

This is, then, a case of complete exstrophy of the bladder, a disease rare in itself, and especially uncommon in this sex. Of forty recorded cases only seven occurred in females. The inconveniences of the condition are obvious. The child is kept always wet by the trickling urine; excoriation of the skin follows. The tumor is exposed to a constant friction. The mouths of the ureters being constantly irritated, may become blocked by a phosphatic deposit, which is a source of danger. Yet the condition is not inconsistent with life. This child is likely to grow up. Instances have been recorded in which persons thus afflicted have reached the age of seventy or eighty years.

From separation of the recti, and general weakening of the abdominal walls, we find that this deformity often gives rise in males to double inguinal hernia. In this child the rings are

elongated, narrow slits, against which the intestine can be felt on cough, but into which it does not enter. The child is, therefore, thus far free from hernia; moreover, her digestion and other unctions are good, and she may be considered healthy.

Now, on uncovering the parts, you will see that at a point a little below where the umbilicus should be, there is a crescentic line, where the transversalis fascia ends. Below this the tissues are soft, consisting only of the skin and peritonæum over the intestine. Below this is the convex surface of the tumor, presenting a groove with two lateral lobes, and in shape looking not unlike the conventionalized "heart" depicted on playing cards. This is the trigone, and on the edge are the two ureters, which admit, as you see, a fine probe, and are constantly oozing with urine. You see the rudimentary labia, and the absence of the nymphæ. This transverse slit, looking like the meatus, is in reality the ostium vaginæ. Below, the perinæum and raphé are normal. The excoriations about the anus, looking like condylomata, are due simply to the irritation of the urine. The fullness which you see over the separated pubic bones is due chiefly to fat, and in the male often contains a double inguinal hernia. But here, as I have said, the ring is empty. My finger and thumb are on the spines of the pubes, which by measure are nearly three inches apart. Above the bladder the angle formed by the receding recti can be readily seen. The existence of the urachus is denied in these cases. The umbilical cord is attached about at the upper edge of the bladder, and here the umbilical vessels terminate. The deformity is due in these cases to a failure of the anterior layer of the allantois to close. The smallest degree of the same abnormality is seen in the condition known as epispadias. A few years ago there was a man who earned his living by going about the country and exhibiting his extroverted bladder before the various medical classes.

The treatment of this deformity may be mechanical or operative. In the former case a urinal is arranged with a metal cup communicating with a reservoir hanging along the thigh. This is hard to adjust and keep in place, and would be especially so in a child of this age. Operative measures may be divided

into two classes, radical and plastic. The former attempts to direct the ureters into the rectum, thus making the lower pouch of the rectum into a bladder, which is to be controlled by the sphincter ani, and which will expell the urine as is necessary, either with or without the fæces. This has often been attempted, and several operations for this purpose have been described. All that I have seen, with one exception, have been disastrous. The patient has usually died either from cellulitis or peritonitis. In those that have survived the result has not been successful. The difficulty is that the peritoneum is displaced like all the other viscera, and one cannot tell how low it comes down. Normally it should go no lower than the line of the trigone. In two cases operated upon in London the peritoneum was perforated, and there was intra-peritoneal extravasation of urine. Another difficulty is that even if the operation is primarily successful the ureters may become blocked up by a phosphatic deposit. To perform this operation it is necessary to pass a fine probe into the ureter; the finger is introduced into the rectum. Then two needles are passed from the rectum, and the lower half inch of the ureter is held in the loop of thread. This is then tightened, and the ureter sloughs through into the rectum by an elongated opening.

T. Holmes' method is to slough the whole back wall of the vesical trigone into the rectum by means of a clamp, thus getting a large fistulous opening.

These operations are all open to the objections of being dangerous, and it is uncertain whether the rectum will tolerate the phosphatic deposits, and whether the sphincter will hold well.

The second class of operations are the plastic ones, where the object is to cover in the deformity by flaps of skin. We cannot hope to make a bladder which will hold water, but we cover it with skin in the expectation that the cicatrix will hold back the bladder, and will leave only an exposed point at the base where the ureters will discharge, and to which a urinal can be more accurately fitted.

T. Holmes' mode of operating is to take one square flap from the groin, and reflect it over the bladder, raw side uppermost. A second flap is cut obliquely from the other groin and labium

or scrotum, and turned or slid over the first, raw surface downwards. A subsequent operation is required to unite the upper edges of these flaps in the wall of the abdomen, above the bladder.

John Wood's operation consists in raising an apron of skin from above the bladder, and turning it down so that the raw surface comes uppermost. Over this are brought two smaller lateral flaps with their raw surfaces downwards; these are joined along the median line, and all are stiched into the margins of the sound skin around the bladder.

Bigelow has grafted the skin directly upon the bladder by dissecting off the mucous membrane above the trigone, raising two flaps at the side, and applying them with the raw surface downward to adhere directly to the bladder, thus occluding the upper three fourths of the viscus.

The operation which I shall do is that of Wood. The assential point is to have no tension, and thus to avoid sloughs. Cleanliness is also especially important. I take the flap from above, about to where the umbilicus should be. The side flaps I make from the groins rather than from the sides of the abdomen, as Wood does, as by his method almost the whole belly is flayed. You will observe that the side flaps taken from the groin infringe upon the erectile tissue about the vulva, and thus give rise to considerable hæmorrhage.

[After this had ceased the flaps were brought into excellent apposition, and stiched with wire and catgut. The protusion of the bladder was entirely closed in except a small opening below. The skin of the belly was drawn together with two button sutures, and the raw surface over the abdomen two thirds closed. The wound was dressed with lint and carbolized oil, one to forty parts.]

HEART-PUNCTURE AND HEART-SUTURE AS THERAPEUTIC PROCEDURES. By JOHN B. ROBERTS, M.D.

(Read January 3, 1883.)

It is more than probable that, in a few years, puncture of the heart-wall (cardicentesis), with direct abstraction of blood by

aspiration, will be recognized as the best treatment in cases of greatly dilated or much distended right heart, with intense pulmonary engorgement; and that incision of the pericardium with suture of the heart muscle will be accepted as proper in cardiac wounds. Hence these latest novelties in cardiac surgery deserve the attention of the Fellows of the College.

That punctures of the heart are comparatively harmless has been well known to many for some years. In 1872, Roger, while performing pericardicentesis on a child with pericardial effusion, thrust the needle into the right ventricle and withdrew about $6\frac{1}{2}$ Troy ounces (200 grams) of pure venous blood. The boy, who was aged five years, became pale, sweated, and had an imperceptible pulse. The withdrawal of the pericardial fluid, accomplished prior to the heart injury, was beneficial; and the cardiac puncture did no permanent mischief, for the patient recovered. Death occurred five months later from long existing dilatation and valvular disease of the heart (*Bull. de l'Académie de Médecine*, 1875, p. 1276).

In Hulke's case (*Trans. Clinical Society of London*, viii. p. 169), a woman with pleuro-pneumonia was supposed to have large pericardial effusion, and a trocar was introduced through the fourth left intercostal space. Nothing escaped except a drachm of venous blood, after which the patient seemed relieved of dyspnœa. She died four weeks later from a complication of diseases, and the autopsy revealed cardiac dilatation and valvular changes.

I have said elsewhere (*Paracentesis of the Pericardium*, 8vo., Philadelphia, 1880), in commenting upon this case: "The abstraction of blood seemed to relieve the distended heart much better than phlebotomy would have done, as was evinced by the diminution of threatening symptoms and the decrease of the area of dullness."

Cloquet, Bouchut, Legros, and Onimus have also observed the apparent innocuousness of wounds of the heart made by capillary trocars. Steiner found, ten years or more ago, that electro-puncture needles could be quite safely introduced into either ventricle, provided they were at once withdrawn (*Med. Times and*

Gazette, May, 1873, p. 492, from *Langenbeck's Archiv. für klin. Chirurgie*).

It has been considered less safe to puncture the auricles; but the interesting paper of Dr. Benj. F. Westbrook, just published in the *Medical Record* for December 23, 1882, seems to show that our fears are as unfounded as were those of our predecessors in regard to ventricular puncture. It is, in truth, to call attention to his case of harmless *intentional* cardicentesis and to his researches in the surgical anatomy of the operation, that I have been led to refer to the corroborative evidence of the cases mentioned above.

I have with much satisfaction, as have many others, done venesection at the bend of the arm for the temporary relief of the distressing symptoms of dilated heart, and for the dyspnoea due to the pulmonary engorgement of acute pneumonia. If, however, a few *drachms* of blood drawn directly from the heart give the relief that could only be afforded by taking a similar number of *ounces* from the veins of the arm, it seems proper to adopt the former measure. The subsequent circulatory depression from anæmia would undoubtedly be less than after the latter operation.

It is manifestly necessary, however, to determine that cardicentesis is innocuous before it can take the place of venesection. The above-mentioned cases and Dr. Westbrook's experience tend to show that such is the fact.

Dr. Westbrook believes that the proper place to perform the operation is in the third costal interspace close to the *right* edge of the sternum. This situation enables the operator to tap the right auricle without injuring the right internal mammary vessels, and with little danger of striking the tricuspid valve. My own preference would be to perforate the ventricle of the right heart by introducing the needle through the fourth interspace, about one and a half or two inches to the *left* of the median line of the sternum. Dr. Westbrook's opinion, however, is entitled to more deference than mine, because he has studied the subject with special reference to cardicentesis, while my special investigations have been limited to the consideration of pericardicentesis.

Further experimentation in heart-puncture for the relief of cardiac distension and pulmonary engorgement is requisite, but it

is probable that it will soon become a well recognized surgical procedure in selected cases. Pericardicentesis has already taken that position, and there is no reason to believe that cardiac surgery will stop its march with the demonstration that the pericardium can be treated as the pleura.

In October, 1881, I read a paper before the Anatomical and Surgical Society of Brooklyn (*The Surgery of the Pericardium; Annals of Anatomy and Surgery*, December, 1881), in which I advised resection of costal cartilage and incision of the pericardium for removal of foreign bodies in the pericardial sac; and at the same time said: "The time may possibly come, when wounds of the heart itself will be treated by pericardial incision, to allow extraction of clots, and perhaps to suture the cardiac muscle."

It seems as if this time had now almost arrived, for Dr. Block has not only expressed a belief that death can be averted in many cases of heart-wounds by simple incision of the pericardium to allow escape or extraction of the clots which cause pressure and death, but has also undertaken to demonstrate by vivisectional experiments that suture of the heart is a simple operation, and requires but three or four minutes (*Amer. Jour. of the Med. Sciences*, Jan. 1883, p. 276; from *Journal de Méd. de Paris*, Oct. 28, 1882; from *Gaz. Méd. de Strassburg*, Oct. 18, 1882). He finds that opening of the right and left ventricles, and entire compression of the heart for the application of sutures, can be supported by rabbits for several minutes. During suturing, he seizes the apex of the heart and draws the organ forward until the traction prevents the escape of blood from the wound. Sutures are then introduced, or the orifice closed by ligation. Even if cardiac pulsation and the respiration stop during this mechanical interference with the heart's movements, death, he asserts, does not necessarily ensue.

These experiments are even more important than the researches spoken of in regard to heart-puncture. I regret that as yet I have not been able to consult Dr. Block's original memoir, but I hope at a future time to do so, and perhaps to be able to report some investigations of my own which I desire to make in the same direction.

HYSTERICAL MANIA: ATHEROMATOUS DISEASE OF LEFT INTERNAL CAROTID: THROMBOSIS OF ARTERIES AT BASE OF BRAIN, WITH CONSEQUENT SOFTENING OF CEREBRAL SUBSTANCE. By W. B. KESTEVEN, M.D.

The following case presents points of interest, both psychologically and pathologically :

On the 30th of September last, I was requested to undertake the care of a lady who was said to be suffering from a severe form of hysteria. The patient came to me in the afternoon of that day, was perfectly collected and cheerful, entered into conversation in the intelligent and self-possessed manner of an educated lady. She joined our family party at tea, and in the course of the evening sat down beside a whist table, to watch the game, as she herself said. In about half an hour she suddenly left the room and retired to her bedroom, where, on being followed, within a very short time, she was found almost in a state of nudity, complaining that her bowels would not act, and endeavoring to evacuate the rectum with her fingers. She talked incoherently, was incessantly moving about; so restless that it was impossible to keep her in bed by any persuasion, although at the same time declaring herself paralyzed; she passed her evacuations under her. On the following morning she became quieter, kept to her bed the greater part of the day, but was still incoherent. She took no food except by strong persuasion. On the morning of the third day, while standing up to be dressed she suddenly fell to the ground, but got up again, all the while protesting that she had lost the use of her legs. She seated herself on the floor in the corner of the room, so as to support herself on either hand by the angles of the wall. She was cheerful, even loquacious, for a few hours.

It became necessary to remove her to an asylum, which was effected by carrying her, as it appeared that she would not, or could not, stand. The sequel shows that she could not. As the case, however, had previously been regarded as one of hysteria, her want of muscular power was doubted. Dr. Wright, of Northumberland House, Finsbury Park, under whose care she

was placed on Oct. 2nd, has obliged me by notes of her condition whilst under his observation. On admission, she was semi-comatose, and in a state of profuse perspiration. She did not move or speak. She would half-open her eyelids and gaze furtively around; her eyes were turned to the left. She seemed to be, to a great extent, aware of what was going on. She gave the impression that she was simulating paralysis and stertorous breathing. Her right side was "limp," but no marked difference from the state of the left side. No reflex action elicited on soles of the feet. Before she died there was a distinctly paralytic state of the left cheek and ptosis of the left eye. Her temperature rose to 103° , and her pulse to 130 during the day of her death, Oct. 4th. Dr. Wright has kindly furnished me with a copy of Dr. Goodhart's report of the macroscopic examination of the brain.

INSPECTION MADE 4 P. M., OCTOBER 5, 1882.

Cranial Bones.—Thin.

Dura Mater and Sinuses.—Healthy, except that dura mater was unduly adherent to skull.

Arachnoid and Pia Mater.—All looked quite healthy, but when stripped from the gray matter beneath on the left side the surface beneath was left ragged and soft; the color being unduly yellow, from the intermixture of blood pigment.

The *vessels* were all healthy except one, and that the left internal carotid. This vessel was obviously plugged by firm substance, and on making a transverse section of this part and examining it closely, it became evident that the coats of the vessel were extensively diseased here: that atheromatous thickening had occurred, leading to considerable diminution of the caliber of the vessel. This had, of course, been going on for some time, probably for many months. More recently, perhaps in the last two or three weeks, perhaps even more lately than this, the diminished channel had become completely closed by fresh clots being deposited upon the roughened arterial wall.

The transverse section of the artery thus showed an outer thick yellow zone, or partial zone, and an inner claret-colored part.

Looked at from above, the left hemisphere was markedly fuller than the right, and bulged out, more particularly in the lower part of the anterior, central, or ascending frontal convolution. It was in this part that the membranes, when stripped, left a ragged surface behind. Making sections of this hemisphere, it was found that the central cortex about this convolution—that is to say, it and the convolutions adjacent—was extensively swollen, so as to have lost its outline of demarcation from the white matter beneath; it was echymosed in many places, minutely vascular in many more, and everywhere had lost its consistence when compared with the opposite hemisphere and the sounder parts of this one.

The lenticular nucleus, the corpus striatum, had suffered in the same way—bloated-looking and pulpy.

It was particularly noticed, and this has an important bearing on the symptoms, that except in the superficial layers of the gray matter, which were beginning to disintegrate, there was as yet no evident solution of continuity of the brain-fibers, and thus there had been no marked paralysis.

The ventricles and other parts of brain all looked healthy.

To the preceding I would add the results of my microscopical examination of portions of the convolutions taken from near the seat of the softened substance. These may be summed up as disintegration of structure by softening—atrophy of nerve-cells, dilatation of the minute vessels, and extensive miliary degeneration—conditions, all of which are indicative of longer-standing disease than would appear from the history of the case. The patient had always been regarded as hysterical. In the month of June last she had a transient attack of hemiplegia. After this she experienced paroxysms of hysteria, bordering upon mania; she complained of tingling sensations in various parts of her body.

This case is worthy of note on account of the difficulty of diagnosis in its early stages, and the contrast presented between its later symptoms, compared with the extent of pathological lesions revealed after death.—*Brain*.

THE FRONTIERS OF MADNESS. .

“The Frontiers of Madness” is the title of an interesting lecture recently delivered by Dr. Ball, in his course at the Paris Faculty of Medicine. The generally received opinion that folly and reason are separated by a strictly-drawn mathematical line, is, according to Dr. Ball, quite erroneous. There is a broad frontier, he says, between sanity and insanity, which is peopled by millions of inhabitants. Damasippus, in Horace, laid down the doctrine that all men are mad—“*insanus et tu, stultique prope omnes.*” Dr. Ball, without going quite so far as this, holds that the number of persons perfectly reasonable on all points throughout the entire period of their existence, form but a minority of mankind. The world abounds with people, he tells us, whom a strict scientific diagnosis would condemn as mad, or more or less “touched;” yet at no time of their life would it be permissible to put them under restraint. Such persons are to be seen occupying honorably and successfully every position in life and society. We brush against them when we take our daily walks abroad; we see them in the mirror which reflects ourselves.

Dr. Ball, having stated the thesis of his discourse, proceeds to a classification of these “sane madmen,” and designs the first place “in the order of merit” (from what point of view he does not specify) to those who suffer from unreasonable, and, in most cases, irresistible impulses. Naturally enough, the lecturer referred to the case of Dr. Johnson, and the curious impulse which prompted him to touch each post as he walked along the streets—an impulse so strong that if he accidentally passed one by without the usual tribute of a touch, he felt irresistibly compelled to return and repair the omission. The overpowering impulse to laugh on occasions of peculiar solemnity is one which even the most serious persons have experienced. A still more morbid impulse is that which sometimes urges pious people to indulge in blasphemous or profane language. A great English divine, Bishop Butler, was tormented all his life long by this temptation, which he only mastered by strong and sustained efforts of the will. The impulse sometimes assumes a suicidal form.

Dr. Ball was recently visited by a young man who was engaged to be married, but who found it impossible to visit his intended bride, because it would involve a journey of some length in a railway carriage, and he could never enter one without feeling a desire to jump out as soon as the train was in motion. He was advised to accustom himself gradually to this mode of traveling by taking short journeys on the suburban line, but he could never get beyond Auteuil; there he had to leave the carriage for fear of accident. Thouviot's case is one of the oftenest quoted. For years this unpleasant person was tortured with a burning desire to kill some woman or other; but he never felt the slightest wish to take the life of a man. He battled with the impulse for years, but at last it got the better of him. One day he murdered a young girl, a perfect stranger to him, whom unfortunate chance threw in his way in the kitchen of a restaurant. Dr. Ball was consulted some time ago by a painter of considerable talent, who was a prey to these murderous impulses. He had married early in life; his family was large, and his cares and anxieties large in proportion. At about thirty-eight, without physical ailment of any kind, or any specially unfavorable turn in his affairs, his mind began to be affected. If he saw a mirror, he experienced a desire to smash it; near a window, he felt a temptation to jump out; he never got a bank-note into his hand that he did not feel impelled to tear it in pieces. These morbid promptings presently assumed a more formidable shape; he began to be assailed with a temptation to strangle his children. His little daughter was dying of croup, and he spent night after night by her bedside, nursing her with the utmost tenderness. "Yet, said he to the physician, "at the moment when I was praying, with tears in my eyes, that the child's life might be spared, I was tormented with a horrible desire to take her out of the cradle and throw her into the fire. Even now," he added, "as I speak to you, I feel a most intense desire to strangle you; but I check myself."

It is a relief to turn from this tragic side of the subject to the comic aspects which it presents in the impulses of kleptomaniacs. The disposition to purloin objects of little or no value often manifests itself in persons of wealth and position quite removed from the reach of vulgar temptations. Some kleptomaniacs will

only take objects of a particular sort. Peddie mentions the case of a very pious person who stole all the bibles he could lay his hands on. Another kleptomaniac only stole clothes-pegs, and, as he had absolutely no use for them, he amassed at last quite a collection. Another worthy man's respect for the distinction of *meum* and *tuum* broke down at once before a blue cotton nightcap, although he never wore any but white nightcaps himself.

The tyranny of a fixed idea is another form which the madness of some people assumes. One sufferer feels an unctuous sensation all over his body, and takes it into his head that he has been dipped in grease. Another, a studious, intelligent young man, is obliged to give up reading altogether, because each time he turns over a page he imagines he has skipped a leaf. Back he is obliged to go again, again the fancy returns, and so he never makes progress. Dr. Cabade had once a patient whom he described as an excellent man of business, who nevertheless felt himself unable, though free from the slightest physical weakness, to perform some of the simplest acts of daily life. He could not cross the threshold of his door without being pushed from behind. He could not rise from his chair without calling for help. In the street his progress was liable to be stopped at any moment by some imaginary obstacle, which no effort of the will would enable him to cross. Akin to these cases, and not readily distinguishable from some of them, is that of the class of persons whom we term hypochondriacs. Every one numbers among his acquaintances some one who never tires of talking of the imaginary ailments from which he is suffering. Many a medical student has been driven half crazy from fancying that he had himself the symptoms of the different diseases which his books describes. Perfectly sane people, again, suffer from hallucinations of one sort or other. Lelorgne de Savigny, for instance, to quote a well-known case, was afflicted with visual hallucination, of which he has left us an account; and which were of so painful a character that he at last shut himself in a perfectly dark room, and passed the remainder of his days there, having failed of obtaining relief in any other way. And there is the case of a drunkard who labored under a curious hallucination of the faculty of hearing.

He rose every morning full of the best resolutions, and determined to keep sober for the day. Unfortunately, the road to where he worked, passed by a certain public house, and at some distance from this fatal spot he became conscious of two voices crying in his ear, the one "He will not go in," the other, "He will go in." As he got near the door the voice of the tempter increased in force till it quite drowned that of the good angel. The matter always ended by his going in and taking a drink, when the hallucination ceased as if by enchantment.—*St. James's Gazette*.

SOME DELUSIONS REGARDING THE OYSTER. By CHARLES L. DANA, M.D., of New York City.

The oyster does not present a very lofty theme, and I venture to apologize first for calling attention to it at the present length.

Mr. Herbert Spencer, in his address upon America, made no reference to this interesting animal, and we are left to infer that it has no importance in American society, and no definite relation to the problems of evolution. But one may fairly claim that this is a neglect, and that he went too far in ignoring what is so unobtrusive. For the oyster represents, very typically, that absence from work and worry which should characterize the evolved life toward which Americans are advised to strive. Furthermore, the oyster, besides thus offering us certain valuable ideals, is a very considerable factor in the social life of the "R" months.

With this preamble, I venture to submit some corrections of prevalent errors regarding the mollusk in question.

1. That the oyster digests itself. For several years the statement, quite uncontradicted, has been going the rounds of the press, that the oyster digests itself. I believe that Dr. Wm. Roberts first gave currency to it. The theory is that the oyster has a large liver, which contains a diastase, and that this diastase, in some inscrutable way, digests the whole animal, under suitable conditions. Thus it has become a wide-spread belief that the oyster, taken into the stomach, does, by virtue of its liver, execute a kind of *felo de se*. Such a belief is very consoling when a person is committing midnight indiscretions with

ostrea edulis, and it is unpleasant to be obliged to dispel it. Yet it is a fact, which the accompanying record of experiments will show, that an oyster has no more self-digestive power than a man.

The hepatic diastase referred to has no power except to change glycogen into sugar—a very trivial matter. It cannot even digest the liver tissue. I have kept oysters, previously crushed between the teeth, in water (temperature 100° F.) acidulated, and neutral for hours, with no resulting digestion whatever.) See experiments iii., iv., v.) I have even dissected out the liver, and given it the best possible chance to eat itself; but neither the mystic diastase nor any other ferment at all affected its succulent autonomy. The oyster does not and cannot digest itself.

2. That raw oysters are always more digestible than the cooked. I quite admit that the ordinary stew is less digestible than the plate of raw oysters. The stew generally contains milk, butter, and a larger number of oysters, all of which complicates the question. Half a dozen oysters, however, roasted* in the shell, or simply boiled a short time, will be digested nearly if not quite as rapidly as the same number of raw (See exper. i., ii). Cooking coagulates the albumen, but coagulated albumen may be more digestible than raw. Thus the white of an egg, unless thoroughly beaten, is lowly digested, and similarly, raw beef has to be finely minced in order to be quickly affected by the gastric juice. Cooking, on the other hand, loosens the tissue binding together the muscular fibrils, and allows the peptic juices to penetrate.

3. That fermented liquors dissolve or digest the oyster. Currency has been given in the *Reporter* and many other journals to the following highly instructive tale: Rev. Dr. Houghton, of Dublin, clergyman, physician and physiologist, was sitting with a friend at a restaurant. Raw oysters had been brought them. Believing, however, that it is proper *desipere in loco*, Dr. Houghton's friend ordered brandy; he himself ordered ale. Wishing to demonstrate the wisdom of his choice and the beauty of physiological processes, Dr. Houghton poured some brandy into one glass, and ale into another, and then dropped an oyster into each. The oyster in the brandy grew hard and shrivelled; that in the

* Beaumont found the difference in his single case to be only 20 minutes.

ale gradually melted away in a diffusible invisible solution.
Moral: Drink ale with oysters.

Now, Dr. Houghton's name and authority have great weight. I doubt if the incident related really occurred, yet it is widely circulated and credited. But it is quite as well, if one is bound to have bad and bibulous habits, to put them upon as near as possible a physiological basis. Therefore I venture to deny the possibility and accuracy of Dr. Houghton's alleged experiment, at least as regards American oysters. These grow hard in ale or beer, instead of dissolving. (Experiment vi.)

When any one becomes so dissolute, therefore, as to drink fermented liquors with his oysters, he should not allow his habits to be confirmed by a false confidence in the potency of malt diastase.

The following is a brief record of experiments made :

OYSTER.	TEST SOLUTION	TEMP.	DURATION OF EXPERIMENT.	RESULT.
I. Raw, masticated.	Aquæ, $\bar{z}$ iij. HCl. 1 per cent. Pepsin (pure) gr. v.	100° F. to 110° F.	3½ hours.	Almost dissolved. Fine fragments and a piece of adductor muscle left.
II. Boiled for 30 seconds.	Same solution as above.	As above.	As above.	About same result. Possible a few more fine fragments.
III. Raw, masticated.	Aquæ, $\bar{z}$ iij.	As above.	As above.	Little if any apparent change. Liver not affected.
IV. Raw, masticated.	Aquæ, $\bar{z}$ iij. Sodæ bicarb, gr. x.	As above.	As above.	Same result apparently as in III.
V. Raw, masticated.	Aquæ, $\bar{z}$ iij. HCl, 1 per cent.	As above.	As above.	Oyster tissue much softened; liver nearly gone.
VI. Raw, cut into once to expose liver.	Beer, $\bar{z}$ viij.	As above.	4 hours.	Oyster hardened; liver not appreciably affected.
VII. Raw, cut into once as above.	Aquæ, $\bar{z}$ ijss. Brand, $\bar{z}$ ss. or 6 per cent.	As above.	4 hours.	Oyster tissue a little softer.

DR. HARLEY in his admirable work on the Diseases of the Liver, just published, gives the following treatment of biliousness :

First give a single smart mercurial purgative. To a strong adult a powder consisting of

R $\bar{y}$ Calomelanos..... gr. iij.
 Pulv. rhei..... gr. iv.
 Magnesiae..... gr. x ij.

Sig.—Take at bed time.

After the free action of this mercurial alkaline purgative in order to stimulate the secretory function of the liver and retain the bowels in as fluid a state by getting into it as much taurocholate and glycocholate of soda as possible, I prescribe half an ounce of the following mixture, to be taken in the intervals of the meals three times a day, in half a tumbler of water :

R $\bar{y}$ Sacci taraxaci ʒxv.
 Sodii sulphates ʒvj.
 Sodii bi-carbonates ʒij.
 Inf. calumbae ad ʒvj. M.

Telling the patient to shake the bottle well before measuring out his doses.

Under prophylactic treatment he says :

“The regulation of the patient's food, drink and exercise is therefore the first—I might almost say the chief—thing requiring to be considered ; for, with a well regulated diet and régime, attacks of biliousness might be reduced to things almost unknown.”

It is not only the quality but the quantity of the food that has to be regulated. For an excess of the most wholesome of foods acts in persons predisposed to biliousness as an exciting cause. Therefore it is a good plan never to allow the patient at any time to eat more than the wants of his system demand. If he is corpulent even put him on short commons. Stop his beer and reduce his wine to a couple glasses of hock or claret a day. If he be thin, or only moderately stout, only stop all salted food, ham, bacon, hung beef, haddock, etc. Order him to take nothing but fresh food—not too fatty, and rather underdone ; to

avoid shell fish and pastry ; to make his chief meal in the middle of the day ; to take as much walking exercise as he possibly can without fatiguing himself, and to go to bed early." * *

" In some persons with a more than usual tendency to biliousness, traceable to biliary secretion, besides chronic hepatic capillary congestion there sometimes exists also defective nerve action. The secretory nerve twigs appear as if they had literally as well as figuratively gone to sleep, and I believe it is by waking them up, as it were, with small doses of *nux vomica*, that homœopathic practitioners have obtained the credit of being able to cure bad bilious attacks. Certainly, for some years past, I have taken a leaf out of their book, and treated many cases of torpid liver with *strychnia* with marked benefit. The rationale of the action of the *strychnia* in these cases appears to me to be precisely the same that it is in mild cases of paralysis, where it evidently calls nerve action into play, as is visibly seen by the paralyzed muscles twitching under its influence. When given in torpid liver from defective nerve influence, the stimulating effect of the *strychnia* upon the nerve is, I think, rendered equally patent to our minds, though not to our eyes, by the increase of the biliary secretion.

Moreover, as a sluggish state of the bowels is a usual concomitant of a sluggish biliary secretion, I usually combine the *strychnia* with *belladonna*, which has a specific action on the intestines, and produces easy motions without purging the patient.

In order to gain a still further advantage, I give, as a rule, the *strychnia* and *belladonna* in combination with *taraxacum*, generally in the form of a dinner pill, to be taken at the commencement of the meal ; and, as I should like others to try my plan, its formula is as follows :

R _x	<i>Strychniæ acetatis</i>	gr. j.
	<i>Ext. belladonnæ</i>	gr. vj.
	<i>Aloes socotrinæ</i>	gr. xiv.
	<i>Ext. taraxaci</i>	ʒij.—M.
	Divide in pil.....	xxxvj.

In another place he says that many of the liver cases, especially those met with among women, are due in a great measure

to the pernicious, and also, now-a-days, but too common practice of flying to sleeping draughts and soothing mixtures on every trifling occasion; for nothing in the world so effectively and promptly impedes the performance of the hepatic function as narcotics be they opiate or chlorals. A couple of grains of opium will bring on an attack of biliousness more speedily in most persons than anything else; while its prolonged use will lead to active as well as passive congestions of the liver.

NECROPSY OF M. GAMBETTA.

According to information forwarded to us from Paris, the necropsy performed on the body of the late M. Gambetta completely justified the diagnosis of his medical attendants, and the expectant treatment which they pursued. The wounds in the hand and forearm were perfectly cicatrised, and are considered to have played no part in the cause of M. Gambetta's death. The termination of the ileum was found so much contracted, that the finger could hardly be passed into it. Bands of adhesion bound down the vermiform appendix, and there were traces of old inflammation in the cellular tissue around the cæcum. Along the course of the ascending colon the cellular tissue was infiltrated with pus, which nowhere formed a distinct abscess. In the substance of the abdominal wall, immediately adjacent to the ascending colon, but not communicating with the collection of pus around that portion of intestine, where sloughs of connective tissue, and also purulent infiltration around them, but no true abscess. There was no visible disease of the mucous membrane of the intestines. A "certain quantity of, but very little," purulent fluid was found lying free in the peritoneum, due, it was considered, to local extension of inflammation from the region of the cæcum and colon. This explains the symptoms observed during the last few days; lowering of the previously high temperature to 98.6° ; pulse, 130, flatulence, hiccough, and coldness of the limbs. Intelligence was retained up to the last moment, and M. Gambetta never realized that his life was in danger. Our informant remarks that the bulletins relating to

M. Gambetta's illness have been much criticised here as being too sanguine in their tenor, but M. Gambetta, up to the last day of his life, read, or had read to him, all the newspapers, and it was therefore necessary to give somewhat vague information to the public in regard to his real condition. For many years, M. Gambetta suffered from symptoms of chronic perityphilitis extending along the ascending colon (hence the confusing term, "pericolitis," which has appeared in the daily papers, and become all the more confusing, through being sometimes mis-spelt pericholitis, as though the bile-duct were involved). This caused him much pain in the right flank and iliac fossa. Under the influence of the constitutional disturbance produced by the pistol-wound in the hand, but in no way through direct traumatic or pyæmic inflammation, the old-standing inflammation around the cæcum and ascending colon became acute, and assumed the form of diffuse phlegmonous inflammation; and the abdominal walls also became the seat of the same kind of inflammation. The extension of inflammation to the peritoneum around the affected intestine completed the final result. It is perfectly evident, from the facts revealed by the necropsy, that surgical interference would but have hastened the fatal termination. All the remaining viscera were examined, notwithstanding their advanced stage of decomposition, hardly checked by the injection of some preservative fluid on the previous day. The lungs and heart were perfectly healthy. The liver was fatty, but not very large; there were no metastatic abscesses in any part of the body; the brain and its meninges were normal; there was no atheroma of the arteries, and only a small calcareous patch in the arch of the aorta, above the semilunar valves. The authorities present were Professors Paul Bert, Brouardel, Charcot, Cornil, Trélat, Verneuil; Doctors Lannelongue, Siredey, Fieuzal, Lionville, Mathias-Duval, Laborde, Guerdat, Gille, and M. Paul Gibier, house-surgeon. After the necropsy, performed by MM. Brouardel and Cornil, the brain of M. Gambetta was removed, in order that it might be weighed and preserved, under the directions of Dr. Charcot. This brain will ultimately be deposited in Dr. Broca's Museum of Comparative Pathology. The operation of embalming the corpse proved to be very difficult, on account of the great

corpulence of the subject, and the troublesome dissection necessary before the carotids could be exposed for the introduction of the nozzle of the injecting-syringe.—*British Medical Journal*.

THE brain of Gambetta weighed 1,160 grammes. This is less than that of any person who has attained distinction since the practice of measuring the cranium and weighing its contents was inaugurated. His skull was scarcely larger than that of the people of the stone age, whose remains are found in caves in various parts of France.

THE USE OF THE MULLEIN PLANT IN THE TREATMENT OF PULMONARY CONSUMPTION.

F. J. B. Quinlan, M.D., M.R.I.A., F.K.Q.C.P., Physician at St. Vincent's Hospital, Dublin, observes that "from time immemorial the *verbascum thapsus*, or great mullein has been a trusted popular remedy, in Ireland, for the treatment of phthisis." After relating seven cases where it proved of benefit, he concludes, "I have set down the above cases simply in the order in which they occurred, and with no view of supporting any preconceived idea. These cases, although too few to justify any general conclusion, appear to establish some useful facts. The mullein plant boiled in milk is liked by the patients; in watery infusion it is disagreeable, and the succus is still more so. The hot milk decoction causes a comfortable (what the Gallic neighbors call *pectorale*) sensation, and when once patients take it they experience a physiological want, and when the supply was once or twice interrupted, complained much in consequence. That it eases phthisical cough, there can be no doubt; in fact, some of the patients scarcely took their cough mixtures at all—an unmixed boon to phthisical sufferers with delicate stomachs. Its power of checking phthisical looseness of the bowels was very marked, and experiment proved that this was not merely due to the well known astringent properties of boiled milk. It also gave great relief to the dyspnoea. For phthisical night-sweats it is utterly useless; but these can be completely checked by the hyperdermic use of, from one-

eightieth to one-fiftieth of a grain of the atropia sulphate; the smaller dose, if it will answer, being preferable, as the larger causes dryness of the pharynx, and interferes with ocular accommodation. In advanced cases, it does not prevent loss of weight, nor am I aware of anything that will, except koumiss. Dr. Carrick, in his interesting work on the koumiss treatment of Southern Russia (page 213) says: 'I have seen a consumptive invalid gain largely in weight, while the disease was making rapid progress in her lungs, and the evening temperature rarely fell below 101° Fahr. Until then, I considered that an increase of weight in phthisis pulmonalis was a proof of the arrest of the malady.' If koumiss possessed this power, mullein clearly does not; but unfortunately, as real koumiss can be made from the milk of the mare only, and as it does not bear traveling, the consumptive invalid must go at least to Samara or Southern Russia. In pre-tubercular and early cases of pulmonary consumption, mullein appears to have a distinct weight-increasing power; and I have observed this in several private cases also. Having no weighings of these latter, however, makes this statement merely an expression of opinion. In early cases, the mullein milk appears to act very much in the same manner as cod-liver oil; and when we consider that it is at once cheap and palatable, it is certainly worth a trial. I will continue the research by careful weighings of early cases; and will further endeavor to ascertain whether the addition of mullein to the cultivating solution prevents the propagation of the phthisical bacillus."—*British Medical Journal*.

IODOFORM IN DIPHTHERIA.

Diphtheria is a constitutional disease—this is not denied any more; but whether it is constitutional from the very beginning is not only very doubtful, but contrary to all sound reasoning. In case micrococci form really the pathogenic cause, they are first seen on the place of primary local affection, and from here they migrate and affect the blood in a similar, only more rapid, manner as the syphilitic virus. But granted that the disease is first purely

local, and effective local treatment should be followed by such results as prove that the constitutional affection has been prevented by early destruction of the primary, local, existing evil. Dr J. Benzon, in Buccari (*Wiener Med. Wochschrift*, 35-82), and Dr. S. Korach in Cologne (*Deutch Med. Wochschrift*, 36-82) both have made experiments with the local treatment of diphtheria by iodoform. The former treated one man, two women, two girls, respectively aged 18 and 22, and a four-year-old child; and notwithstanding the cases were all of grave type, under the local treatment mentioned, they all ran a very favorable and rapid course. B. treated his cases as follows: He took a painter's brush, 1 ctm. wide, and dipped it into a finely-powdered iodoform till the points were all colored yellow. He then depressed the back of the tongue and applied the iodoform with the brush to the diphtheretic membranes. This procedure was repeated by B. in the beginning of the disease every two hours, about eight times during the day and six times during the night. With the exception of ice application to the neck, this formed the whole treatment.

He made use of this treatment under and by direction of Prof. Leichtenstern, the physician-in-chief of the Cologne City Hospital. For nearly a year all the patients in this institution suffering from diphtheria were treated with iodoform alone; cleansing injections with unmedicated water being the only local or internal medication used besides. First, iodoform triturated with amyllum, was insufflated; then the dry powder alone was put by a brush upon the membranes. Later these methods were dropped, and instead of them iodoform with collodium (1 : 10) brushed six times daily over the diphtheritic exudations, the latter having each time been previously totally dried with a linen rag. Sometimes a solution of 2.5 in 25.0 sulph-ether, and 5.0 tolu balsam, was made use of. The splendid results gained—of 213 cases only one death by laryngeal diphtheria—should induce far more extensive trials with this drug.—*Medical and Surgical Reporter*.

THE ABSORPTION OF NUTRIENT ENEMATA.—Dr. Charles L. Dana, of New York, communicates to the *Medical Record* the

results of a series of experiments upon dogs, made to determine the physiological process by which nutrient enemata are absorbed. He finds that large injections forcibly administered *may* cause a "retrostasis," which will carry the material by the ileo-cæcal valve, and even into the stomach; moreover, that, in dogs, ordinary nutrient injections of two, three, or four ounces pass back some distance, and may even reach the ileo-cæcal valve, but do not go farther, the injection being carried back much better when the lower bowel is empty or comparatively so. He believes that the clinical cases are exceptional in which retroperistalsis occurs, and concludes that the process is usually effected by local absorption. The fact that the colon is very vascular and has a large supply of lymphatics confirms the view that it is not an excreting organ, but its function in man is that of absorbing: in solipeds it has a powerful digestive action. He observes that albuminous food, when injected, speedily undergoes chemical changes and decomposition. In some of the early stages of this process it is quite possible that the changed albumen passes into the surrounding vessels. Normal peptic digestion is only a decomposition with many stages in it, during some of which the albuminous matter is absorbed. It is not necessary that albumens be made perfect peptones before they can diffuse into the blood vessels and lymphatics. Fats cannot be absorbed to any great extent in the colon or rectum. It is not necessary to inquire whether starches can be changed to glucose, since it is always possible to add some form of animal sugar to the enema if that be thought necessary. Milk and beef tea are regarded as very nearly as effective as the expensive peptonized preparations for use in nutrient enemata, the value of which may be regarded as established both by physiological experiment and abundant clinical experience.—*Medical Times*.

TREATMENT OF DYSENTERY.

Mr. F. Rawle, M.R.C.S., observes that, at the present time, when dysentery is very prevalent, especially amongst those who have returned from the Egyptian war, any suggestion that may

mitigate the suffering of so fatal a malady will be hailed with gratitude. The plan he has used with most success is the following: First, having placed the patient between warm blankets, a pint and a half of warm water, at a temperature of 90° Fahr. is injected. This is seldom retained longer than a few minutes, but is pronounced very grateful to the patient. When the water has soothed the mucous membrane of the colon and rectum, and brought away any *effete* matter, two ounces, by measure, of the following enema is administered with a gum-elastic bottle. *R.* Quinine sulphate, ten grains; compound tincture of camphor, four drachms; decoctum amyli to two ounces. Mix, and when about milk-warm, inject, which is generally retained; but, if ejected, it may be repeated after an hour or two. This has been found of great service, and very grateful to the patient; the effect is like magic. If griping pains be felt over the region of the epigastrium, half-draehm doses of chlorodyne, in some aromatic water, mint, carraway, or aniseed should be given. The diet, of course, should be of the most soothing kind; jellies, isinglass, linseed, toast and barley water *ad libitum*. Ipecacuhana appears of little service, and Mr. Rawle has discarded it from his treatment. Warm turpentine stupes on warm flannels, over the hypogastrium prove very beneficial.—*British Medical Journal*.

DR. DOVER.—People whose “inward griefs and peristaltic woes” have been relieved by the power of Dover, do not generally know to whom they are indebted for this excellent compound. The doctor was a friend, and probably a pupil, of the great Sydenham. He commenced practice in Bristol, where, having made some money, he longed to make more. The roll of the College of Physicians tells us that he joined with some merchants in fitting out two privateers for the South Seas, in one of which, the “Duke,” he himself sailed from Bristol, August 2, 1708. On the passage out they touched at the island of Juan Fernandez, where Dover, on the 2d of February, 1709, found Alexander Selkirk, who had been alone on the island four years and four months, and whom Dover brought away in the “Duke.” In the

April following, Dover took Guinaguil, a city or town of Peru, by storm. In December, 1709, the two privateers took a large and valuable prize, a ship of twenty guns and 190 men, in which Dover removed from the "Duke," taking Alexander Selkirk with him as master, and finally reached England in October, 1711. After this cruise Doctor Dover removed to London, where his practice soon became great. His patients, and the apothecaries who wished to consult him, addressed their letters to the Jerusalem Coffee House, where, at certain hours of the day, he received hosts of his patients.—*Canadian Journal of Medical Science.*

THE CRIMINAL SPREAD OF INFECTION.—Judge Dixon, of New Jersey, in a recent charge to the grand jury of Paterson, called their attention to the case of a man employed at the pest house as nurse to a small-pox patient, and who, having the germs of the infectious disease about him, went recklessly to his family, communicating the disease to his children, one of whom died. In commenting on this case, he said: "If a man, conscious that he carries about with him the germs or a contagious disease, recklessly exposes the health and lives of others, he is a public nuisance and a criminal, and may be held answerable for the results of his conduct. If death occurs through his recklessness he may be indicted for manslaughter. It is held that where a person knowingly communicates a contagious disease to another, and death results, the crime is that of manslaughter." Judge Dixon furthermore added: "The man may be indicted also for spreading the disease by conscious exposure of others thereto by his presence in public places, such as on the street, in halls, etc. He might be indicted as a public nuisance for endangering the public health in this way, even if no consequences had followed. The law provides some penalty for such offenses against the public safety."—*Boston Med. and Surg. Jour.*

Items.

A meeting of the stockholders of the Chicago Dental Infirmary was held in the club rooms of the Sherman House, February 5th, for the election of officers. Drs. N. S. Davis, Wm. Byford, A. Reeves Jackson, Norman Bridge, N. B. Delamater, Gorton Nichols, Marvin Smith, Eugene S. Talbot, Frank Gardiner, Truman W. Brophy, Edgar D. Swain, James A. Swasey and A. W. Harlan were elected a board of directors. Dr. J. A. Swasey was chosen president, Dr. M. E. Smith vice-president, Dr. E. S. Talbot recording secretary, Dr. T. W. Brophy corresponding secretary, Dr. E. D. Swain treasurer. An executive committee, consisting of Drs. F. Gardiner, T. W. Brophy, E. S. Talbot, A. W. Harlan, and Gorton Nichols, was appointed, to place the infirmary upon a working basis. Rooms have been secured, and the chairs filled. It is expected to have the institution in operation by March 1st. The objects of the infirmary are : to provide the best treatment for worthy poor at a cost only of the material used, and to educate medical students, who so desire, in the art and science of dentistry. It is conceded generally that the time has come when dentistry must rank equally with other specialties in medicine. The American Medical Association has already recognized the specialty. The dental colleges are gradually requiring a more thorough education, and now nearly every chair in the medical college is included in the course, plus operative and mechanical dentistry, thus requiring more of the dental student than the medical student when only the degree of D. D. S. is conferred. Students entering the infirmary must have matriculated in some medical colleges of good standing. After attending two courses of clinical instruction and found qualified, they will receive

diplomas, providing the degree of M. D. has been conferred. Another new departure in medical teaching was inaugurated in the medical colleges last fall. Full chairs on dental pathology and surgery were added to six of these seven colleges, and instruction on dental and oral diseases was given in the regular winter course. These chairs were filled by graduates of medicine who are practicing dentistry in Chicago. Whether the interest manifested by students was owing to the novelty of the subject or a desire to acquire a knowledge of the diseases emanating from the teeth, it certainly was very encouraging to those having charge of this branch of medicine.

AN Army Medical Board has been ordered to assemble at the Army Building, corner of Houston and Greene streets, New York City, New York, March 1, 1883, for the examination of such persons as may be properly invited to present themselves before it as candidates for appointment in the Medical Corps of the army, and will probably continue in session about three months.

All candidates for appointment in the Medical Corps must apply to the Secretary of War for an invitation to appear for examination. The application must be in the handwriting of the applicant, must state date and place of his birth and place and State of which he is a permanent resident, and must be accompanied by certificates based on personal acquaintance from at least two persons of repute as to citizenship, character and moral habits: testimonials as to professional standing from Professors of the Medical College at which they graduated, should also accompany the application if they can be obtained. The candidate must be between twenty-one and twenty-eight years of age (without any exceptions), and a graduate of a regular medical college, evidence of which, his diploma, must be submitted to the Board.

Further information regarding these examinations and the nature thereof. can be obtained by addressing the Surgeon General, U. S. Army, Washington, D. C.

DEATH OF DR. MUDD, sentenced to life imprisonment for harboring J. Wilkes Booth.—Dr. Samuel A. Mudd, who served a term in the Dry Tortugas for harboring John Wilkes Booth, the assassin of President Lincoln, and assisting him to escape, died January 3d, at his residence, near Bryanstown, Charles county, South Carolina. Dr. Mudd came of an old family of prominence and influence in southern Maryland. After the assassination, Booth and Harold rode to Dr. Mudd's home, and he dressed Booth's injuries. He found that Booth's right leg was fractured, the bone being broken clear through just above the ankle. The leg was much swollen, and Dr. Mudd insisted on Booth remaining at his house all day and part of the next night. Dr. Mudd was sentenced by the court to be confined for life at hard labor, and President Johnson ordered him and others to be sent to the Albany Penitentiary. He was subsequently sent to the Dry Tortugas, where, during a yellow fever epidemic, he rendered such valuable services, that, after a few years' confinement, he was pardoned by President Johnson.—*Gaillard's Medical Journal*.

CASE OF TRAUMATIC RECTO-VESICAL-FISTULA.—Dr. W. M. Bemus, of Jamestown, N. Y., reports to us briefly an interesting case of injury to the rectum and bladder. The patient, aged about 25 years, fell from about twenty feet, striking upon a sharp stub, about two inches in diameter, which penetrated the rectum for about six inches, and entered the bladder above the prostate. Urine passed freely from the anus after the withdrawal of the stick. Treatment consisted of anodynes as needed, hot fomentations and the retention in the urethra of a flexible catheter. At the date of the report, six weeks after the injury, the patient was apparently as well as ever, with no evidence of a recto-vesical fistula, and no pain in urinating or at stool.—*Colorado Med. Journal*.

TO DISGUISE THE ODOR OF IODOFORM.—We have had many queries as to how this may be best accomplished; we therefore give every reliable report on the subject. The following is from

the *New York Medical Journal and Obstetrical Review*: "Having tried nearly all the devices that have been suggested for mitigating or disguising the odor of iodoform, and found them all of little or no avail, we have lately come nearer to the object by using oil of eucalyptus, according to the following formula :

R ^y	Pulv. iodoform.....	℥ ss
	Oil eucalypt.....	℥ ss
	Vaselin.....	℥ iv.

M. ft. ungent.

This ointment is not without odor, but the odor is not that of iodoform."—*Med. and Surg. Rep.*, Jan. 13, 1883; *Am. Jour. Pharmacy*.

At the meeting of the Chicago Medical Society Dr. E. F. Ingals presented the following case, referred to him by Dr. Mackenzie :

Simon Ladinski, Feb. 15, 1877, was hung by a band of robbers; at the same time having his throat cut, severing the trachea. He also received two other knife wounds. After two hours he regained consciousness. Two days later was removed to a hospital; was five years and a half under the care of Prof. Schotter. After the main wound healed the glottis was found so small that only a filiform bougie could be passed. Dilatation was practiced steadily for about two years; the patient was then taught to use Schotter's dilator himself. He now wears the tracheal tube constantly, with plug of Schotter's dilator every night. This plug is about half an inch broad by three-eighths inch thick, and one and a half inch long. In a few months it is hoped the external wound may be closed.

THE *Illustrated Quarterly of Medicine and Surgery*, edited by Drs. George Henry Fox and F. R. Sturgis, and published by E. B. Treat, No. 757 Broadway, New York, is doubtless the most magnificent medical journal published. No. 4, of Vol. 1, which is just to hand, has nine original articles, illustrated by three chromo-lithographic plates and fifteen wood-cuts. The subscription price is \$8 per year. We don't see how it can be done at

that price, but if the publishers can stand it, the reader certainly has no reason to complain.—*Medical Chronicle*.

The Chicago Homœopathic Medical College will, after this session, cease to matriculate females. This conclusion was reached by a unanimous vote of the faculty. We congratulate them on the advancement. The co-education of the sexes in the practice of medicine and surgery must be very embarrassing and must lead to poor teaching. Women desirous of studying medicine can find every facility for the purpose in the Woman's Medical College of Chicago. The Chicago Homœopathic College has forty-five candidates for graduation.

THE Illinois State Board of Health, through its indefatigable Secretary, Dr. John Rauch, has sent us three circulars entitled "Preventable Disease Circulars," No. 2, Diphtheria; No. 3, Scarlet Fever; No. 4, Typhoid Fever. The circulars, in an admirably succinct manner, detail the methods of prevention and control in these affections. They are well worth the careful study of physicians, and we congratulate the board upon their literary and scientific merit and general distribution.

THE Health Department of Chicago, gives in its January statement the following facts: Total population 1882, 560,693; total deaths January, 966. The greatest number of deaths resulted from phthisis pulmonalis, 99; convulsions infantile, 74; diphtheria, 73; pneumonia, 74; scarlet fever, 39. There were ten deaths from suicide; thirteen deaths from small-pox. There were 212 deaths less than last January. The annual rate per 1,000 was 20.67.

ALFRED STILLE has been elected President of the Philadelphia College of Physicians, and Dr. Fordyce Barker has been re-elected President of the New York Academy of Medicine. The New York Poliklinik had sixty-four students at its first session; only legally qualified practitioners are admitted as students.—*Maryland Med. Jour.*

THE HAMMOND PRIZE.—The American Neurological Association offers a prize of five hundred dollars, to be known as the “William A. Hammond Prize,” and to be awarded at the meeting in June, 1884, to the author of the best essay on the “Functions of the Thalamus in Man.”

The conditions under which this prize is to be awarded are as follows.

1. The price is open to competitors of all nationalities.
2. The essays are to be based upon original observations and experiments on man and the lower animals.
3. The competing essays must be written in the English, French, or German language: if in the last, the manuscript is to be in the Italian handwriting.
4. Essays are to be sent (postage prepaid) to the Secretary of the Prize Committee, Dr. E. C. Seguin, 41 West Twentieth street, New York City, on or before February 1, 1884; each essay to be marked by a distinctive device or motto, and accompanied by a sealed envelope bearing the same device or motto, and containing the author's visiting-card.
5. The successful essay will be the property of the association, which will assume the care of its publication.
6. Any intimation tending to reveal the authorship of any of the essays submitted, whether directly or indirectly conveyed to the committee or to any member thereof, shall exclude the essay from competition.
7. The award of the prize will be announced by the undersigned committee, and will be publicly declared by the President of the association at the meeting in June, 1884.
8. The amount of the prize will be given to the successful competitor in gold coin of the United States, or, if he prefer it, in the shape of a gold medal bearing a suitable device and inscription.

Signed, { F. T. MILES, M.D., Baltimore.
J. S. JEWELL, M.D., Chicago.
E. C. SEGUIN, M.D., New York

VACCINAL MICROCOCCI.—The Lancet says that M. Straus has plainly demonstrated the presence of the special micrococcus in

microscopical preparations of the vaccinal pustule from the calf. He places the excised fragments of the skin in absolute alcohol, cuts sections and stains them with methylamine violet, and then discolors them, until only the nuclei, the bacteria and micrococci remains visible. Under a strong magnifying power the latter were visible as extremely minute points tinted blue, about a thousandth part of a millimetre in diameter, and grouped in colonies.—*Ex.*

A RECEPTION TO THE PRESIDENT AND VICE-PRESIDENT OF THE AMERICAN MEDICAL ASSOCIATION.—Dr. John V. Shoemaker, the editor of the *Medical Bulletin*, lately gave a reception at his house in Philadelphia, in honor of Dr. John L. Atlee, of Lancaster, Pa., and Dr. Alexander G. Stone, of St. Paul, Minn., the former the President and the latter the Vice-President of the American Medical Association. A great number of well-known members of the profession were present, not only from Pennsylvania, but from several of the neighboring States, and the affair is said to have been very brilliant.

THE *Illustrated Medicine and Surgery*, published by E. B. Treat, New York, under the able editorial management of Dr. Geo. H. Fox and others, is one of the most valuable of our exchanges. Its illustrations are taken from cases occurring in the practice of the best known metropolitan physicians and surgeons, and are executed with an accuracy and skill which make them exceedingly useful to the physician of every grade of proficiency and experience.

We take especial pleasure in recommending the *Illustrated Medicine and Surgery* to our readers.

DR. SEGUIN'S HEALTH.—After the tragedy which left Dr. Edward C. Seguin a childless widower, he went abroad for a change of surroundings, and has been traveling since that time in various parts of Europe. "The latest letters from him," said his brother-in-law, Dr. Amidon, recently, "show that Dr. Seguin has entirely recovered his health. It is uncertain when he will return, if ever, or whether he will resume practice in this city."

CHLORINATED SODA.—A solution of this is made as follows : To a pint of distilled water add two ounces of fresh chloride of lime, shake thoroughly, then slowly add it to a saturated solution of common washing soda until it becomes thick and turbid ; let it stand until thoroughly settled, when the clear liquid should be taken off with a siphon, when it is ready for use. It should be kept tightly corked in a dark place.—*Ex.*

THE CHAIR OF ANATOMY AT HARVARD.—At a recent meeting of the Board of Overseers of Harvard University, Dr. Thos. Dwight, instructor in topographical anatomy, was appointed to fill, for the remainder of the year, the chair of anatomy, made vacant by the resignation of Professor Holmes.

TIT, BUT NOT TAT.—If any one is so wicked as to poison his grocer, who brings him food every day, the severest penalty of the law would be enforced, but if your grocer poisons you by adulterating your food, ten chances to one no notice will be taken of it.—*Ex.*

The many friends of Prof. S. J. Jewell will be pleased to learn that his health has received much benefit by his sojourn at the Hot Springs, and that he expects to resume his professional labor by the 1st of April next.

LEPROSY.—Charles Derby, a recent arrival from San Francisco, has developed into a leper at the almshouse in Salem, Mass. He was botanist to Queen Emma at Honolulu for some years.

Dr. S. B. Craver will succeed Dr. E. K. Oliver as resident physician, with Dr. Dobbins as assistant, at the Chicago Hospital for Women and Children, during the coming year.

DR. M. A. PALLER having resigned the chair of gynæcology in the New York Post-Graduate School, Dr. B. F. Dawson has been appointed to the position.

CLINICS.

MONDAY.

Eye and Ear Infirmary—1.15 to 2.15 p. m., Otological, by Dr. Schaefer; 2.15 to 3.30 p. m., Ophthalmological, Dr. Holmes.
 Mercy Hospital—2 p. m., Medical, Profs. Hollister and Quine.
 Rush Medical College—2 p. m., Medical by Prof. Bridge; 3 p. m., Dermatological and Venereal, by Prof. Hyde.
 Woman's Medical College—2 p. m., Dermatological and Venereal, by Prof. Maynard.

TUESDAY.

Cook Co. Hospital—2 to 4 p. m., Medical and Surgical Clinics.
 Mercy Hospital—2 p. m., Surgical Clinic, by Prof. Andrews.
 Woman's Medical College—10 a. m., Prof. Ingals.

WEDNESDAY.

Chicago Medical College—2 p. m., Eye and Ear, by Prof. Jones.
 Rush Medical College—3 p. m., Ophthalmological and Otological, by Prof. Holmes; 3 to 4 p. m., Diseases of the Chest, by Prof. Ross.
 Woman's Medical College—2 p. m., Eye and Ear, by Dr. W. T. Montgomery; 3 p. m., Diseases of Children, by Prof. Chas. W. Earle.
 Eye and Ear Infirmary—2.30 p. m., Dr. E. J. Gardiner.

THURSDAY.

Chicago Medical College—2 p. m., Gynæcological, Prof. Dudley.
 Rush Medical College—2 p. m., Diseases of Children, by Prof. Knox; 3 p. m., Diseases of the Nervous System, by Prof. Lyman.
 Eye and Ear Infirmary—1.15 to 2.25 p. m., Otological, by Dr. Schaefer; 2.15 to 3.30 p. m., Ophthalmological, Dr. Holmes.
 Woman's Medical College—3 p. m., Surgical, by Prof. Owens.
 College of Physicians and Surgeons—2 p. m., Medical, by Prof. S. A. McWilliams; 3 p. m., Surgical, by Prof. R. L. Rea.

FRIDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
 Mercy Hospital—2 p. m., Medical, by Prof. Davis.

SATURDAY.

Rush Medical College—2 p. m., Surgical, by Prof. Gunn.
 Mercy Hospital—2 p. m., Surgical Clinic, by Prof. Andrews.
 Chicago Medical College—3 p. m., Neurological, Prof. Jewell.
 Woman's Medical College—2 p. m., Gynæcological, by Prof. T. D. Fitch.
 College of Physicians and Surgeons—2 p. m., Diseases of the Chest, by Prof. S. A. McWilliams; 3 p. m., Gynæcological, by Prof. A. Reeves Jackson.

Daily Clinics, from 2 to 4 p. m., at the Central Free Dispensary, at the South Side Dispensary and at the West Side Dispensary.

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Original Communications.

ARTICLE I.

THE DOCTORATE ADDRESS, Delivered at the Fortieth Annual Commencement Exercises of Rush Medical College, held in Central Music Hall, Chicago, February 20, 1883, by MOSES GUNN, M.D., LL.D., Professor of Surgery and Clinical Surgery, Rush Medical College.

GENTLEMEN OF THE GRADUATING CLASS:

As in nature, full fruition culminates a series of developmental changes which originated in the germ, so in education, the ceremonies of graduation typify that grade of development which enables the graduate to commence the enjoyment of the fruit of knowledge which he has thus far acquired. And as in nature the fruit contains the germ of future representatives of the family, which are to be an improvement upon or a degeneration from their predecessors, according to the management of the germ in its developmental progress, so in education, the acquired knowledge

of the graduate contains the germ which may perpetuate and increase human knowledge, or degenerate and die, according to the treatment which it shall receive.

You, gentlemen, have now gathered your first harvest from the medical tree, and while the fruit of that harvest may justly contribute to your delectation and profit in your future career, remember that it contains a rich supply of germs, some of which it behooves you to cultivate and improve.

It is the duty of every man to do good in his day and generation according to his ability; to leave his race, at least, unimproved by his existence. It is a privilege which may be enjoyed by every man of average health and intellect, to finally leave the world some better for his having lived in it. This general proposition applies to the grand body of human knowledge, as well as to the material wealth of the world.

The faithful propagation of a few or many of the germs contained in the fruit which you have thus far plucked will enable you to discharge the duty and enjoy the privilege which I have indicated. To do the first implies work, much work. Idleness will leave the balance in your account with the world against you, and rest assured that the world will torment you with frequent reminders of your indebtedness, though it fails to collect the debt.

To accomplish the second, you should be constant in your devotion to the science which you have chosen, using it as a means of doing good to the world at large, and to your profession in particular.

The germs which you find in your fruit must be carefully guarded against the mildew of forgetfulness on the one hand, and the scorching effects of sensual pursuits on the other, till you are in a situation to plant and cultivate them; and when that seed and cultivation time shall come—and it should begin even now—remember that your harvest will not be rich unless your husbandry shall have been thorough.

But though you neglect and waste the germs, you may not even selfishly enjoy your fruit without bestowing upon it an assiduous and protecting care. The fruit of the tree of knowledge which the student gathers is extremely perishable, unless it receives constant protection. Studious habits and thoughtful application

only will keep off the spores floating thickly in the atmosphere of idleness, which, settling down upon your store, develop the teeming bacterian myriads of decay and putrescence.

It grieves me somewhat that in falling into this figurative expression, in accordance with prevalent and fashionable modes of thought, I seemingly ignore the pure chemistry of decay ; but I beg you to acquit me of any such dereliction, and to remember, as a standing caution, that all that is new is not always true, and that all that is true is not necessarily new.

But whatever simile may be employed, the marked and stern fact you must appreciate, that your stock of acquired knowledge will rapidly melt away without that reinforcement which comes of studious habits.

But it is not my intention to mar your enjoyment of this era in your lives by reiterating injunctions to labor. An occasion like this should, perhaps, be regarded as a breathing-time in the continuous work of professional life ; a time to forget for a few days that you are laborers under an unrelenting taskmaster.

Let us turn, then, to the consideration of another subject of hardly less importance to the members of a learned profession. *Noblesse oblige*. Your rank and position impose upon you obligations which may not be avoided. The amenities of professional life and intercourse must be faithfully observed, and to observe them promptly and constantly you must be familiar with the principles upon which they are founded. Nay, more ; those principles must become a part of your nature. To a certain extent, and in a limited number of men, they are innate. The man who is by nature a gentleman has an instinctive appreciation of them, and such a man will not often greatly err in his dealings with his professional brethren, individually or collectively. But the average man, however humiliating the confession may be, is not naturally a gentleman ; and we cannot shut our eyes to the fact that many average men study medicine, practice medicine, and are widely useful to the public and the profession. Nature's noblemen are not very numerous, and those made by royal letters-patent only, are necessarily extremely defective. Royal letters are sometimes false labels. Men cannot be decreed nor legislated gentlemen. Education only can supplement natural deficiencies

in this, as in all other attributes. Hence, ethics justly demands your thoughtful attention, and should be thoroughly studied and consciously practiced, provided always, that it is practiced ethically. Perhaps the most unethical of all men is, generally speaking, he who is always ostentatiously ethical.' His crime (for it is a crime) is that of scrupulously observing the letter, while violating the spirit of the law.

Principles of justice, tempered by kindness and graced by benevolence and beneficence, have been invoked for the regulation of professional conduct and intercourse, and thus has grown a body of law known and recognized as the code of medical ethics. This code may, like the body of common law, be unwritten, *i. e.*, it may have never been formally enacted by any law-making power, but its mandates are even more potent than a statute, for the statute may not venture to contravene the principles of common law. Like the English constitution, which is the bulwark of the sturdy Briton, it may never have been formally enacted by parliament, legislature or convention; yet, as the principles of the English constitution could gain no potency by such a process, so the principles of the code need not the force of an enactment. Thus, the medical profession in England (and, I believe, in every other European country) has no written code of ethics; and yet the principles which govern professional intercourse and deportment are as well known and as thoroughly potent as though the talismanic "Be it enacted by the British Medical Association" had attempted its supererogatory work.

Perhaps the earliest approach to a written code of medical ethics may be found in the Hippocratic oath. This oath was imposed by the physician upon his pupil at the time of his indenture, and made the pupil a sworn member of the corporation. It is as follows:

"I swear by Apollo the physician, and Æsculapius, and Health, and All-heal, and all the gods and goddesses, that, according to my ability and judgment, I will keep this oath and this stipulation—to reckon him who taught me this art equally dear to me as my parents; to share my substance with him; to relieve his necessities if required; to look upon his offspring in the same footing as my own brothers, and to teach them this art, if they

shall wish to learn it, without fee or stipulation; and that by precept, lecture, and every other mode of instruction, I will impart a knowledge of the art to my own sons, and those of my teachers, and to disciples bound by a stipulation and oath according to the law of medicine, but to none others. I will follow that system of regimen which, according to my ability and judgment, I consider for the benefit of my patients, and abstain from whatever is deleterious and mischievous. I will give no deadly medicine to any one if asked, nor suggest any such counsel; and in like manner I will not give to a woman a pessary to produce abortion. With purity and with holiness I will pass my life and practice my art. I will not cut persons laboring under stone, but will leave this to be done by men who are practitioners of this work. Into whatever houses I enter, I will go into them for the benefit of the sick, and will abstain from every voluntary act of mischief and corruption; and further, from the seduction of females or males, of freemen and slaves. Whatever, in connection with my professional practice, or not in connection with it, I see or hear in the life of men, which ought not to be spoken of abroad, I will not divulge, as reckoning that all such should be kept secret. While I continue to keep this oath unviolated, may it be granted me to enjoy life and the practice of the art, respected by all men, in all times! But should I trespass and violate this oath, may the reverse be my lot!"

It will be noticed, that while thus closely bound to one another, and to practice their art for the good of mankind and the protection of society, guided, in the main, by unselfish and generous motives, still, some of the requirements would hardly pass muster at the present time. It was a very close corporation, which sought to keep the art within certain families, hardly in harmony with the generous method and practice of making doctors in this year of grace which ushers you into the medical profession. Evidently, too, the departments of surgery and gynæcology had not yet been recognized. Methinks those old masters, if their slumber is not too profound, must groan in spirit, if not in body, and their old crumbled bones metaphorically quake at the high-handed procedures of the last half of the nineteenth century. Even the

pure and unsanguinary physician of the present day must occasionally shock that holy dust, as he deals out the potentials of our *materia medica*.

Times have certainly changed! and times will continue to change. The principles of ethics, like the grand principle of the golden rule, will endure, but changed times may effect wonderful change in their application. Perhaps, centuries hence, nay, decades hence, some of the regulations of our code will seem as strange to the medical mind as do now some of the restrictions of the Hippocratic oath.

Our Federal Union of States has a written constitution, formally enacted. The individual States have each its formally adopted constitution. The medical profession in the United States has a code of ethics, formally enacted by the American Medical Association, which regulates professional legislation and conduct as potently as does the constitution of the United States the legislation of Congress. The State societies generally, and even local societies often, formally re enact and adopt this code for their own guidance. It therefore behooves the medical man to familiarize himself with this instrument. This is a duty which is as imperative as that which naturally rests upon every intelligent citizen to understand the principles of the Federal constitution.

The details of the code are arranged in three principal groups:

First. The duties of physicians to their patients, and the obligations of patients to their physicians.

Second. The duties of physicians to each other, and the profession at large.

Third. The duties of the profession to the public, and the obligations of the public to the profession.

Let me invite your attention to some of the subjects considered in this arrangement of articles and sections.

The first group consists of two articles.

Article I is composed of seven sections, treating of the duties of physicians to their patients, and is a comprehensive and sensible exposition, which you will do well to study and practice.

Article II consists of ten sections, devoted to a setting forth of the duties which patients owe to their physicians.

A code regulating the conduct of the members of a corporation

may be very properly enacted by that body ; but when its enactments contemplate the regulation of the conduct of other bodies, or of the general public, or of individuals outside of the corporation, it sounds very like a bull directed to that most erratic of all bodies, a comet. It may contain much wisdom and justice, but it is wholly inoperative, and falls little short of the ridiculous. Can it be that, through a process of unconscious cerebration, the framers of the code were emulating Don Quixote in their endeavor to regulate that which is notoriously not to be regulated? Contemplate the American Medical Association enacting that "Even the female sex should never allow feelings of shame or delicacy to prevent their disclosing the seat, symptoms and causes of complaints peculiar to them;" that "a patient should never weary his physician with a tedious detail of events or matters not appertaining to his disease;" that "patients should always, when practicable, send for their physician in the morning, before his usual hour of going out;" that "patients should also avoid calling on their medical adviser unnecessarily during the hours devoted to meals or sleep;" that "a patient should, after his recovery, entertain a just and enduring sense of the services rendered him by his physician!" This is all very well and very true; but as well might they have enacted that all men ought to be sensible, considerate and just.

The conduct of patients relative to their maladies and medical attendant will be just what the joint peculiarities of physician and patient make it. It is a matter over which codes are utterly impotent. Imagine a doctor reading the riot act to the patient who persists in sending for him at unseemly hours! or to one who, having secured his services, fails properly to appreciate them! or to a shrinking, delicate female, who can't tell all the truth at once! Seriously, this article of the code is an excrescence, unsightly and ridiculous, which requires a surgeon's service, extirpation.

The second group, which relates exclusively to members of the profession, individually and collectively, consists of seven articles, containing twenty-nine sections which cover pretty completely the whole ground, and if you follow the letter and spirit of this portion of the code, you can never be far out of the way. I say

letter and spirit, for the designing and unscrupulous man may, in many ways, murder the spirit, while observing the letter of the code. Constitutions, and laws with their penalties, will not make all men good, nor make any man all good. The man is good or bad by virtue of his own attributes; not by virtue of laws and enactments. The good man uses the law for his guidance in cases of doubt; the bad one uses it to ascertain just how far he can wander within its limits, or to determine whether life has for him more attractions within or without the pale of the law. Doctors are no exception to the general rule. You will encounter many who know little of the code, but who, apparently, carry within their own consciousness the spirit and actuating force of all law. You will also come in contact with those who are familiar with all its articles and sections, whom you will learn not to trust.

The chief interest, at the present time, is found in Article IV of this group, which pertains to consultations, and that interest centers in the first section, which reads as follows:

“A regular medical education furnishes the only presumptive evidence of professional abilities and acquirements, and ought to be the only acknowledged right of an individual to the exercise and honors of his profession. Nevertheless, as in consultations the good of the patient is the sole object in view, and this is often dependent on personal confidence, no intelligent regular practitioner, who has a license to practice from some medical board of known and acknowledged respectability, recognized by this Association, and who is in good moral and professional standing in the place where he resides, should be fastidiously excluded from fellowship, or his aid refused in consultation, when it is requested by the patient. But no one can be considered as a regular practitioner or fit associate in consultation, whose practice is based on an exclusive dogma, to the rejection of the accumulated experience of the profession, and the aids actually furnished by anatomy, physiology, pathology and organic chemistry.”

Early in the summer of 1881 Lord Beaconsfield died, and during his last sickness, the question of a consultation between his irregular medical attendant and certain members of the regular profession became one of general interest to the English profession.

Just what the facts were, I may be excused from knowing, when, in reply to a letter of inquiry, one of the most prominent surgeons of London writes: "I cannot exactly say what were the facts, the really facts, in the case of Lord Beaconsfield, for many things supposed to be facts were only statements made in general conversation, and were probably not more nearly correct than such statements usually are." From this same letter, and from the English journals of that year, we know that the English profession became deeply interested in the question whether a regular physician could, with propriety, meet in consultation an irregular who stated that he had frequently treated his patients in accordance with the principles of regular medicine, and would thus continue to treat Lord Beaconsfield. The affairs of the International Medical Congress, however, submerged the question for a time, but at the meeting of the British Medical Association which followed immediately upon the adjournment of the congress, the presidential address, the address of the president of the medical section, and that of the president of the surgical section, all took up the question. Mr. Barrow, in the presidential address, took the ground that when the irregular practitioner had "consented to place himself under the direction of the consultant, no blame could be attached to the latter in responding to the invitation to take charge of the case."

Dr. Bristow, in his address on medicine, and Mr. Hutchinson, in his address on surgery, both favored consultations with certain irregulars.

Such opinions, from such sources, aroused correspondents and editors to active and earnest discussion, the general sentiment being against the position assumed by the authors of the three addresses. But the Lancashire and Cheshire branch of the association refused to affirm the "*lex non scripta*" of the profession covering the point in question.

The Royal College of Physicians in due time passed upon the subject in the following explicit and dignified language: "While the college has no desire to fetter the opinion of its members in reference to any theory they may see fit to adopt in connection with the practice of medicine, it nevertheless considers it desirable to express its opinion that the assumption or acceptance by mem-

bers of the profession, of designations implying the adoption of special modes of treatment, is opposed to those principles of freedom and dignity of the profession which should govern the relations of its members to each other and the public. The College, therefore, expects that all its fellows, members and licentiates will uphold those principles by discountenancing those who trade upon such designations."

In the meantime, professional thought in our own country was engaged in a consideration of the superfluously extended code of the American Medical Association. The State Society of New York had, at its annual meeting in February, 1881, appointed a committee to revise the code. The report of that committee was adopted at the annual meeting in February, 1882, and consisted in the presentation of what was practically a substitute for the code. The new code thus adopted wisely omits both the articles which attempt to regulate and determine the obligations of patients and the public to the profession, and correctly confines itself to its proper business, viz., the regulation of professional intercourse.

The chief feature of interest here, as in the code of the American Medical Association, is found in that section which specifies whom the members of the society may meet in consultation. It is as follows :

"Members of the Medical Society of the State of New York and of medical societies in affiliation therewith, may meet in consultation legally qualified practitioners of medicine. Emergencies may occur in which all restrictions should, in the judgment of the practitioner, yield to the demands of humanity."

Thus, that which was only proposed by the three distinguished men in Great Britain, is boldly adopted as a rule of action by the State Society of New York. The Empire State Society thus arrayed itself against the American Medical Association, and, as a natural consequence, its delegates were refused admission to that body at its annual meeting, held at St. Paul in June last.

Three weeks since, the Medical Society of the county of New York met for the purpose of securing an expression of opinion by its members relative to the new code of the State Society, and a resolution approving of the same was adopted by a more than two-thirds vote, viz., 147 to 60.

Since then the regular annual meeting of the State Society has taken place, during which the Society confirmed its action of the previous year.

This bit of history is instructive. It plainly shows that time and altered circumstances are continually changing the relations of men to one another, even in professional aspects.

The altered circumstances consist in the practical and often openly avowed abandonment of their dogmas on the part of the irregulars and an effort, conspicuously ludicrous it is true, to supplement their irregularities by a feeble show of science in their educational methods.

The State, too, lends its potent aid in changing relations. Uneasy gentlemen in the regular ranks clamor for a law which shall purge community of quackery of all forms and elevate the status of the profession by legal enactment. Thus, State boards are created, with sole power to license practitioners of medicine. In the accomplishment of this magnificent feat is illustrated in a forcible manner the truth of the old maxim that "politics make strange bed-fellows." The virtuous and enthusiastic regular, in his desire to purify community of quackery joins cordial hands with the most seductive of all forms of quackery, in order to secure a State licensing board composed of regulars and representatives of such forms of quackery as have numerical strength enough to make their aid desirable in this grand work of reformation. The old *Æsculapian* lion, graciously and benignantly inclining his august head, and the innocent (?) lambs of empty dogmatism, suspending for the nonce their amusing gambols, lie down together and are led by the monstrous child of folly and error.

Thus, the invocation of the State power accomplishes the legal parity and intimate association of the regular and irregular. Truly, a magnificent and pride-inspiring result!

Is it strange, then, that under these circumstances, in reference to the consultation question, men are coming forward with the proposition to throw down all restrictions and leave the individual practitioner to follow the dictates of his own judgment?

Contemplate, for a single moment, the present status of the medical profession in Illinois. Any member of the profession

who has not the good fortune to have been in practice in the State for ten years previous to the first of July, 1877, is obliged to obtain a license to practice from the State Licensing Board, which board is composed alike of regulars and irregulars, doctors of medicine and laymen.

Now, as to the ethics of this arrangement. Dr. A, a graduate of a respectable medical college, presents his diploma and asks for a license to practice his profession. The authority and reputation of the college are pronounced good, and he receives a document authorizing him to go forth with healing on his wings, signed, among others, by Drs. B. and C. irregulars. His first patient, perhaps, desires the counsel of Dr. B. or C. with whom, by virtue of the code, Dr. A. cannot consult, although his authority to practice is derived in part from these very men who have sat in solemn judgment over his own qualifications! Who would not be a member of a legally purified profession? Who would not court the happy lot of one who practices by grace of Drs. B. and C. and who is restrained by the code from meeting them upon a platform to which they have assisted in legally raising him? O, wise law! O, wise code! O, wise members of a learned profession who had not confidence enough in that profession to permit it to stand upon its own merits, but invoked the power of the State to accomplish this most ridiculous and humiliating result! Who would not be a member of the medical profession in Illinois, when to practice his calling he must have the endorsement of a mongrel body, or in event of his ten years' practice previous to 1877, enjoy his independence of that potential body in common with numerous "Lock Hospital" and "Lost manhood" quacks?

You, gentlemen, who contemplate practice in this State, will be compelled to recognize irregular medicine, inasmuch as you cannot legally write the first prescription, nor dress the first wound, without soliciting authority to do so from a body composed in part of avowed irregular practitioners. Old and eminent practitioners throughout the State, and several of your professors in Rush College, are independent of that body only by the operation of a proviso which legally places by their side some of the most notorious and ignorant quacks in the State. Thus the State

law *purifies* the profession by legalizing the most shameful quackery. Our only consolation is in the fact that no voluntary act of our own determines our legal status. This comfort, unfortunately, is denied you, for you are compelled to solicit and accept permission to practice from a mongrel board, and thus, by such enforced volition (if I may indulge in the paradox) you are obliged to recognize the legal professional status of men whom the code prohibits you from meeting at the bedside.

But the complications do not end here. The honorable gentlemen of the State Board who represent the regular profession are in frequent consultation with the irregular element of that board, over the qualifications of applicants for license; and I submit the question whether, in so doing, they are not violating the code as essentially as if they were consulting over the treatment of a patient? Nor is this all. The licensing power of the board is an *ex officio* power held by the State Board of Health, a body which meets, consults and acts in behalf of the general public health; which has communities for patients, and over these illustrious patients meets in formal and prolonged consultation; and I again submit the question of violation of the code; is not the degree of violation proportionate to the interests at stake?

If the regular members of the board were to meet in consultation at the bedside of an afflicted patient with the irregular members, they would undoubtedly violate the mandate of the code covering this subject; and when they meet in consultation over afflicted and pest-ridden communities, the principle remains unchanged; and if the National Association refuses admission to a delegate from the New York State Society, can it consistently admit a representative from the Illinois State Board of Health? The delegate from the New York State Society may have never personally violated the code, while the representative of the Illinois State Board of Health is a constant violator.

But I have not reached the climax of this ludicrous and colossal inconsistency. The National Board of Health has also its irregular element, and the distinguished and honorable gentlemen who represent regular medicine in that board are, consequently, in open violation of the code. It cannot be urged that there is no question of therapeutics involved; that the subject of public

hygiene offers no opportunity for clashing of fundamental principles. This question of therapeutics was waived in Lord Beaconsfield's case; but the Royal College decided that the offence lay in the professional recognition of men who trade on their qualifying designation; and the representatives of regular medicine in the National and Illinois Boards of Health are in constant professional recognition of men who thus trade on their designation.

It may, perhaps, be said that the association of these men on the board is not professional; that they are merely lay members, as is the case when other professions are represented. But this will not do; for in every instance, the irregular has been appointed to his position because he was an irregular, and represented his peculiar class. Had he not been an irregular he would never have received the appointment, but would have been set aside for some one who could represent the class to which he belonged.

Having now indicated the position which the representatives of regular medicine occupy on these boards, I desire to disclaim any intention or disposition, even, to arraign them for any violation whatever. On the contrary, I repose the fullest confidence in their professional honor and uprightness. I have no fear that they will become contaminated, nor that the medical profession will suffer in any way from their relations to their irregular associates.

But I do arraign the medical profession for gross inconsistency. The professional sentiment which overlooks the position of these representatives of regular medicine in the various boards of health where irregular medicine is also represented, and disciplines a society which adopts the rule that its members may consult with "legally qualified practitioners of medicine" and that "emergencies may occur in which all restrictions should, in the judgment of the practitioner yield to the demands of humanity," is inconsistent.

State power has intervened in each instance, and because the State has placed certain men in a board of health certain other men deem themselves justified in associating professionally with them. The State, also, through this same board, examines certain other men and gives them power to practice medicine. Now, if the State seal is curative in the one instance it is equally so in

the other. If the legally qualified irregular may be consulted with in the State and national boards of health in reference to the public health, the legally qualified irregular may, also, be consulted with in reference to the health of the individual. There is an old and homely maxim, perhaps too homely for quotation here, about sauce which is *a propos*. Surely the sauce with which the regular member of the board of health is dressed, may be most appropriately used to garnish the private practitioner.

You will be able now, perhaps, to see that altered circumstances must modify the application of principles. Forty years ago the medical profession in this country stood alone. All laws regulating the practice of medicine had been repealed or were a dead letter. The profession stood upon its own merits, asking for and receiving no favors. If the great public did not choose to protect itself against ignorance and quackery the profession preferred to be calmly serene, rather than to appear to seek protection for itself. It could be as dignified and exclusive as it chose, and it chose to be both in an eminent degree. When the American Medical Association was organized, it, and the members of the profession at large, were free from all entangling alliances. Under such circumstances the section of the code regulating consultations recommended itself to the judgment of the practitioner, and in its working there was no friction. But, alas! it is so no longer. Wisely, or unwisely as individual judgment may pronounce it, alliances have been formed and their entangling complications are now embarrassing us.

Do you ask me for a solution of these difficulties? Admonished by the time which I have already occupied, I am reluctant to attempt one on this occasion. I shrink too from a task that has drawn down upon the State society of the Empire State the frowns of the American Medical Association.

But I may not shrink from giving you advice as to your conduct in reference thereto.

First. From an ethical standpoint be ever mindful of the fact that within the true Æsculapian fold you have unlimited freedom of medical creed and practice, and that a healthful and vigorous *esprit du corps*, which is the very soul of ethics, allows you to

use the honorable title of Doctor of Medicine without qualifying designations of any kind whatever.

Second. Study thoroughly the code of the American Medical Association, and also the State laws relative to public health and the licensing power, and thus enable yourselves to form a clear and definite opinion as to "what's the matter."

Third. Promulgate that opinion on all suitable occasions, and be ever ready with your voice and vote to lend your aid in reconciling conflicting conditions, by amendations and emendations both of the code and the State laws.

Fourth. Pending such changes, render allegiance to the code ; so will you truly represent old Rush, your Alma Mater.

ARTICLE II.

PATHOLOGY OF BRIGHT'S DISEASE. By C. W. PURDY, M.D.

The morbid anatomy accompanying the various lesions and stages of albuminuria has received valuable elucidation from various sources within the past few years. The coarser anatomical textural changes are now pretty well understood, but the more minute microscopical changes which occur in the course of these morbid processes, may be said in some instances still to be obscure. This in itself does not seem so surprising if we consider that the histology of the kidney is not as yet an entirely solved problem.

The nomenclature of the subject also, as at present accepted, is liable to lead to some confusion as to the nature of some of these lesions. Interstitial nephritis for example, would imply an inflammatory process, but it is extremely probable if not actually demonstrated, that the changes occurring in this lesion are in no sense of an inflammatory character.

The pathology of renal diseases is by no means limited to the kindeys themselves, but, in almost every instance, more or less grave departures from normal texture is found to accompany the disease in quite a number of organs remote from the renal. A very comprehensive study of renal pathology would extend far

beyond the necessary limits of such a paper as this, and hence we must be content with a mere glance at the more important lesions outside the kidneys and limit the greater portion of what we have to say to the pathology of the kidneys themselves. In studying the history of each special lesion we have seen that symptoms vary very materially with the stage of the disease. It is equally so with the pathology. In the early stages of the lesion we find the slighter forms of textural change, which, followed onward, become more grave and have also added to them others of more or less importance. Hence the pathological history of a lesion becomes a subject very extensive in itself to follow minutely through all its variations. A minute description of all these would furnish sufficient material for quite a hand-book, and hence we shall be obliged to confine ourselves for the most part to a description of well marked typical cases of each lesion, pointing out only the more important variations therefrom which are most commonly encountered.

Following the same order of description dwelt upon in a former paper on "Diagnosis," the first subject to be considered is

THE PATHOLOGY OF PARENCHYMATOUS NEPHRITIS.

At once the most frequent and the most curable of the forms of Bright's disease, its pathology is probably at present most thoroughly understood. Most authors have divided the disease into several clinical and pathological stages. Grainger Stewart claims for it three distinct stages and describes at length the pathology of each.

The division into acute and chronic stages, however, seems to be the one most commonly followed, and probably corresponds best with the clinical and pathological history, for the changes in all the stages are essentially the same in character, varying only in extent with that of the disease and the length of time they may have been in progress.

If the kidneys be examined after death which resulted during well-marked acute parenchymatous nephritis, the organs will be found considerably enlarged, varying somewhat according to the intensity of the inflammation. The capsule is unaltered, save that it may be congested, and it is stretched. It usually strips off

easily. The kidneys are softer and less elastic than in health, and are more easily broken down. The surface is smooth and mottled, and more or less congested.

On making a section of the kidney, it will be at once observed that the cortical portion is much increased relatively. The malpighian bodies are enlarged two or three times their natural size, and stand out prominently as dark red spots. Small extravasations of blood may be seen studded through the cortical, which latter itself is seen to be more or less congested.

The pyramids are deeply congested, exhibiting a deep, dark red color. In cases of extreme swelling of the cortical, their interpyramidal layers crowd in upon the pyramids, compressing their middle portions, and thus forming the wheat-sheaf appearance first pointed out by Rayer. The vascular spaces at the inner edges of the cortical are intensely congested, as are all the smaller renal vessels. In cases of extreme congestion, as where death has resulted from uræmia after sudden suppression of urine, the cortical may assume a darker, dirty brown color.

The microscopical changes are limited to the cortical portion of the organ, for the most part, so far as we have any knowledge. The earliest changes noted are those of a cloudy swelling of the epithelium of the tubes and that of the glomerule. This consists of an infiltration of albuminous granules into the cells, which latter become swollen, more granular and dense, and the cell wall and nucleus less distinct. Occasionally they may contain a few fat drops, though this is more common in the advanced stage. Owing to the enlargement of cells, the tubes become broader in their transverse diameters, and at the same time the lumen of the tube is reduced in size, and sometimes completely closed. As the disease progresses, the tubes become filled with epithelium, free granular matter, and sometimes red blood corpuscles. In some cases, the tubes are filled with a transparent homogeneous material. These becoming detached, carry away with them on their surface a coating of epithelium, and, appearing in the urine, may be seen as epithelial casts. Minute extravasations of blood occupy the tubes in places, which come from the capillaries of the glomerule.

Oertel says that in renal disease following diphtheria, he has found "great numbers of micrococci and exuberant proliferations of the same." Heller claims that he has frequently found in the blood-vessels, in acutely inflamed and swollen kidneys from pyæmia, plugs consisting of spherical bacteria and bacteria-emboli.

In many places the epithelial lining of the tubes desquamates, throwing off entirely the lining. At some places we find the tubes filled quite uniformly with dark masses, products of epithelial growths, blood debris or transparent fibrine. In other places these obstructions are only partial, some tubes only being plugged, and this is usually when the disease is of short standing.

As the disease advances and the acute stage to some extent subsides, the epithelium lining the tubes takes on a fatty metamorphosis. The tubes are observed under a high power to be filled with fatty granules mostly contained, however, within the envelope of the epithelial cells. These latter are imbedded in fibrine, which chokes up the tubes in irregular portions. The above changes never occur in the outset of the disease but must be the result of at least three to four months progress.

But, to return to the acute stage of nephritis; the malpighian bodies stand out prominent, enlarged, and congested, deeply reddened in color. The alterations in the glomerule and its capsule has been the subject of much discussion. Klebs claims that the cavity inside the capsule is filled with angular small nuclei, imbedded in a fine granular mass which almost completely covers the vascular tuft. He claims that this is not the endothelial lining of the capsule, for, on careful dissection, this endothelium is found very slightly altered, occasionally fattily degenerated. He further claims that the compression of the vascular tufts by this hyperplasia, causes the sometimes sudden diminution or almost entire suppression of the urine and acute dropsy followed by uremia and death.

Johnson, in his lectures on Bright's disease (1874) observes, "That the nuclei in the walls of the capillaries of the malpighian body are abnormally conspicuous." Cornil and Ranvier speak of "a swelling and granular condition of the capsular epithelium, and nuclear proliferation and fatty degeneration of the capillary walls."

Langhans has recently furnished what is probably the most complete and exhaustive description of the changes occurring in the malpighian bodies published to date. He claims three sets of cells are contained within the malpighian body, namely, those lining the capsule of the body; those covering the glomerule or capillary coil; and those of the capillary vessels. All three of these, he claims, share in the pathology of nephritis.

He says, "The epithelium of the capsule in the slight degree of alteration, merely results in overgrowth of cells. The nucleus is larger, more oval, and almost fills the cell. Increase in the number of cells is a more rare occurrence. In the spaces between the layers of cells are found smaller and larger lymphoid cells and more frequent still is partial thickening of the capsular epithelium."

"As to the alterations in the glomerule epithelium, the cells are less adherent; at least, they detach easier as a whole, instead of in part, owing to the dissolving of their connecting plasma. The cells themselves are said to be little altered, sometimes swollen, and when so, the thicker nucleated portion of the cell is the exclusive seat of swelling, making a club-like form of the cell, which may, indeed, separate completely, leaving the free, un-nucleated portion as an independent cell.

"As to the changes in the capillary nuclei, the glomerule is enlarged, and fills closely the capsule. The epithelium of the glomerule, as a rule, is simply swollen, especially its nuclear portion. The lumen of the capillaries is found more or less occupied by a cloudy, more or less granular substance, sometimes containing fat drops. In it are found numerous small, round nuclei. These lie in the fine granular mass, and do not adhere to the capillary wall. These capillaries are still pervious to blood under high pressure."

Langhans has never found this condition absent in the large white kidney. Bartels agrees with Langhans that the nuclear proliferation of the capillaries has the effect of diminishing the secretion of urine.

Such, in the main, are the alterations found in the malpighian epithelium in nephritis, as observed by Langhans, consisting, for the most part, first, in cloudy swelling, passing into fatty degener-

ation in the last stages of the disease, and also into disintegration and exfoliation.



FIG. 1.



FIG. 2.



FIG. 3.

FIG. 1.—Proliferation and thickening of capsular epithelium with compression of glomerule.

FIG. 2.—Desquamative glomerulo-nephritis; surface of the capillaries.

FIG.—Capillary loops with proliferation of the nuclei.

—After Langhans.

The intertubular fibrous tissue is subject to slight changes in the later stages of nephritis. In acute cases, as a rule, there are no interstitial changes. When occurring, as they do in the advanced stages, they are doubtless due to long-continued hyperæmia

of the kidneys, resulting in hypernucleated overgrowth of the corpuscles of connective tissue. This, with saturations of exudations, and to some extent, also, effusion of white blood cells, increases the spaces between the tubules. The next step in the process is contraction at the expense of surrounding tissue, and hence, in the very advanced stages, we get more or less secondary contraction, according to the degree of interstitial involvement.

This brings us closely in relation to primary granular atrophy, or fibrosis, from which, however, it is not difficult to distinguish by the following characteristics:

In fibrosis, as a rule, the tubes will be found uniformly little, if at all, affected; while in nephritis they will be found in all stages of the changes just pointed out.

In atrophy from fibrosis, the fibrous stroma is very greatly increased; in the inflammatory form it is not increased to any extent. The capsule, too, is more adherent in true fibrosis, and cysts are much more common than in nephritis.

In the acute stage, the organ is everywhere engorged with blood, and congestion is prominent. The cones are darkened; the cortical itself appears a dirty reddish shade, and little spots of extravasated blood may be seen dotted here and there through recent sections, which drip with dark-colored blood. The malpighian bodies stand out enlarged, red and prominent.

After a variable time of perhaps two to four months, if the disease does not terminate in resolution, the chronic stage is entered upon, or, in some instances, the action is less acute from the beginning. The deep congestion has subsided, and the cortical is pale in color. The kidney is large and swollen. The most marked changes now found are the advanced epithelium metamorphoses in the malpighian bodies, and in the tubules already described. In some instances, the interstitial changes are superadded to the above.

The condition of the urine in nephritis deserves special consideration from a chemical standpoint. As a rule, all the natural constituents of the urine are more or less diminished. Albumen is always present, and in proportion to the extent of the disease and in direct ratio to its intensity, usually ranging from 60 to 90 per cent by bulk in well developed cases.

Casts of fibrine containing epithelial cells, or the latter caked together into rods, as molds of the tubules, are found most frequently in the early stages. Granular casts, which are merely epithelium broken down, are found usually somewhat later. Transparent casts of fibrine (small if the tubes retain still their epithelium, large if the tubes have lost their epithelium) are found and known as waxy casts. These are usually found in very advanced stages of the disease.

As to the natural elements of the urine, urea is diminished and directly in proportion to the intensity of the disease or the amount of urine passed. In ordinary cases it is reduced to about one-half, say 14 grammes in twenty-four hours. Extreme diminution is a very ominous symptom and most liable to be followed by convulsions. In convalescence, the urine becoming established again, the urea may rise to 50 grammes.

The diminution of uric acid is less marked and probably does not fall far short of that in health, or it may slightly exceed the latter in some instances.

Phosphates fall about one-third in quantity, which is considerable less of a reduction than takes place in either of the other forms of renal disease. Sulphuric acid is diminished one-sixth to a third, and this reduction is pretty uniform.

Chlorine, which in normal urine is present to the extent of about 8 grammes or a little more, is sometimes totally absent in nephritis. It always suffers greater reduction in this than any other form of Bright's disease. Potash, soda, lime and magnesia are diminished, but we have no reliable estimates as to the exact amounts.

The blood crystalloids are frequently present in the urine in very early stages, often before that of albumen. Dickinson says: "A state of urine in which the crystalloids of the blood only are discoverable is a pre-albuminuric stage, and it would seem that at least in some cases the sapphire blue imparted to the urine by its admixture in a test tube with tincture of guaicum and ozonic ether, declares the presence of those elements of the blood before the less fluent albumen has been able to traverse the coats of the vessels." This is hence a most valuable and early diagnostic of renal disease which is well worth remembering.

RENAL FIBROSIS.

If the kidneys be examined after death which occurred during well developed fibrosis, the organs will be found much smaller than in health, weighing from one to three and a half ounces. They are not always symmetrically reduced in size, one frequently being found considerably smaller than the other.

The surface is found irregularly nodulated and furrowed. The capsule is much thickened and considerably adherent, and consequently is with difficulty stripped off, carrying with it usually detached portions of the corticle. On removal of the capsule, the surface of the organ is seen to be uneven and granular. These granular spots are little hemispherical elevations ranging in size from one-twenty-fifth to one-fifth of an inch, and consist of small knuckles of tubules twisted and contorted from their natural course. These granules are of lighter color than the depressed portions intervening, which latter are slightly vascular. Numerous cysts are usually found scattered over the surface of the kidney varying considerably in size. The consistence of the organ is very much altered, feeling to the finger firmer and less elastic than normal, and on section with a knife it is found tough and resisting. This is more especially the case in the cortical.

On section through the organ it is observed that the cortical is most decidedly altered, being contracted and shriveled up in some cases perhaps to one-sixth of an inch in width. The cones are less affected though a little diminished also, and small cysts are found both in the cortical and medullary portions. The malpighian bodies are much reduced in size, so much so as to be scarcely visible to the naked eye. The small arteries everywhere are much thickened in their coats, and very prominent. Small needles of urate of soda are frequently seen streaked between the intertubular portions of the cones and also scattered throughout the cortical. This is particularly observable in gouty subjects. Da Costa has observed the constant presence of increased amount of fat surrounding the fibrotic kidney, even in emaciated subjects. (See *Am. Jour. Med. Sci.*, vol. lxxx, 1880). The pelvis of the kidney may appear contracted if the cones are little affected, or it may, more often perhaps, be dilated if there is contraction of the cones.

Under the microscope the most marked change is found to be an exuberant growth of connective tissue, most observable in the cortex, and destruction of the tubules and small blood vessels. This overgrowth of connective tissue is found in all stages of new development, and is not, be it remembered, a shrinkage of the old connective tissue of which the cortex is sparingly supplied. Dickinson has traced capillaries of evident new growth into this new fibrous tissue in places where it is found in quantity. The most plentiful amount of new fibrous tissue takes its rise at the surface of the cortical, particularly at the depressions between the granular elevations, and extending inwards in rays, envelop thickly the malpighian bodies, the tubules, and small blood vessels.

The secondary process which invariably attends the growth of new fibrous tissue in other organs, follows the same course here, namely, contraction. The effect of this is to compress, through their thickened capsules the malpighian bodies. The effect on the minute vascular system is to contort, in some places to dilate, but ultimately to contract and obliterate the lumen of many of the capillaries. The tubules are some of them dilated, but more of them contracted, particularly in sections, but for the most part, their epithelial linings are not essentially altered. Dickinson says that any alteration found in the epithelium is merely that of form, the cells appearing more cramped and pressed into angular shapes. The tubes are often occupied by transparent fibrous matter, oil globules are sometimes found through this, or again, the former may crumble into granular material and become packed with casts of this broken up fibrine. The cysts previously spoken of result from contraction or blocking up of the tubes at certain portions, and dilatation of their distal calibers.

On examination under high power, we find the muscular coat of the vessels increased. This thickening of the muscular coat in time is followed or accompanied by nucleolar shrinking, which gradually gives way to coarse transverse fibrillation. Evidences of fatty degeneration follow, particularly at the inner margins of the muscular coat. The outer or fibrous covering of the vessels becomes markedly thickened; under the microscope it appears as if swollen with nearly clear exudative matter (a condition of evi-

dent atheroma). This is usually secondary to the changes noted in the muscular coat of the vessels.

This muscular thickening of the vessel coats, advancing to degenerative changes and thickening of the fibrous sheath, it is important to note, is not confined to the vessels of the kidneys, but a similar simultaneous change pervades the systemic arterial tubework, of which we shall have more to say presently. Many of the capillaries in the cortical, in consequence of this thickened over fibrillation of the coat and interspaces, become obliterated, and this is especially noted in the capillary coils of the glomerule.

As to the changes found in the urine, nearly all the natural constituents are diminished except water, which latter is rather increased, except it be in the very late stages.

The urea is always reduced; most so, however, in the advanced stages, averaging from ten to twenty grammes a day in well-marked cases. Uric acid is slightly reduced in the early stages, and in extreme cases it may be totally absent. Phosphoric acid is much diminished, usually to one-fourth the normal quantity; in the late stages there may be but one-fiftieth, or even less. While the amount of phosphoric acid is thus usually much diminished, it varies much, and the quantity is very irregular relatively.

The sulphuric acid is reduced comparatively little to that of the phosphoric, hence it often predominates over the latter.

Chlorine does not suffer much reduction, nor does the chloride of sodium, save in the later stages, when the reduction is very decided.

The alkalies and earths are generally reduced, though the exact extent is unknown.

Of the changes which occur elsewhere in fibrosis, thickening of the cranial vertex may be noted, and this, too, is usually accompanied by thickening of the dura mater, which is adherent to the internal table of the skull. Apoplectic effusions of blood are frequently found in the brain, and sometimes into its ventricles.

I have mentioned elsewhere that visual disorders are a very common complication of renal fibrosis. In the most serious form of this there is swelling of the surrounding disk of the retina, and hypertrophy of the nerve fibers. Virchow likened them to sclerosed ganglion cells. Most authors class them as varicose

hypertrophies of nerve fibers. Fatty deposits are found in the fiber or muscular layers of the nerve tissue. The connective tissue fibers of Müller become the seat of fatty changes, giving rise to white streaks on the macular region. The blood-vessels of the retina are subject to the same changes as that in the vessels elsewhere, and hæmorrhages are very constantly to be observed between the retinal layers, or sometimes even in the vitreous humor. The changes described above are those due to what is termed albuminuric retinitis, and, though recurring sometimes in the course of nephritis, are much more commonly the result of granular atrophy. The transient disturbance of vision known as uremic amaurosis is quite another disorder; rapid in its development, it may pass off without leaving any pathological or physiological evidences of its invasion.

The last and most interesting of the pathological changes associated with renal fibrosis, coming under our notice, is hypertrophy of the left ventricle of the heart.

This change, while undoubtedly found in a few cases of nephritis and amyloid disease, especially in their later stages, yet it is doubtful if it occurs sufficiently often in any uncomplicated renal disease save in fibrosis, to entitle it to rank with prominence as a part of the pathology. The fact that hypertrophy of the left heart occurs only in advanced stages of nephritis and amyloid disease, and that it is a constant and early accompaniment of fibrosis is sufficient to relegate it to the pathology of the latter disease. Its occurrence with fibrosis is estimated in frequency by various authors from 40 to 100 per cent. If we seek to unravel the etiological phenomenon of the morbid change, we are forced to admit in the end, that there remains as yet some underlying cause which has not yet been satisfactorily demonstrated.

A very eminent and numerous school claim that as the kidneys fail to eliminate all the waste products of tissue metamorphosis there remains in consequence in the circulation a large amount of foreign substances more or less poisonous, and this renders the blood more resisting to the small vessels and to the tissues, and in order to overcome this resistance the left heart becomes more powerfully developed.

But if we glance at the chemical changes which occur in the

urine as the result of nephritis, and compare them with those resulting from fibrosis, we find very little essential difference in the two conditions. Why, then, if this poison theory (if I may so term it) be true, is it that we do not have hypertrophy in nephritis as commonly and as early as in atrophy? for remember, these urine changes are more early by far in nephritis than in atrophy (see table of urine). Again, it would scarcely be in keeping with what we should expect physiologically; if elements which are constantly in the circulation during years of most perfect health, without exerting any morbid change in the heart or vessels; to find that by a moderate increase of these elements in the circulation, so serious an organic change would at once fall upon the heart and vessels; more especially as we look to the circulation as the great prime depurating channel of the system; as the only means of ridding it of the accumulation of these same waste products. We have elsewhere given in full our reasons for disbelieving that any mechanical obstruction in the kidney circulation, due to renal disease, can be the cause of hypertrophy of the heart, and we believe that any such position cannot be maintained. There seems to me much reason in the old and perhaps largely rejected theory of Gull and Sutton, which is that a general fibrotic change, simultaneous with that in the kidneys, occurs in the vessels everywhere, destroying their elasticity, and thus hindering the flow of blood through them to the extent that the heart must increase its power to sustain the circulation. Recent physiologists claim that the blood-vessels do not contract in a vermicular wave from the heart onward, and thus assist the onward current from the ventricle. However that may be, we know that at least, when the fibrotic and muscular change attacks the vessels, they lose their elasticity, and thus resist the cardiac impulse, as we shall attempt to demonstrate. To illustrate this, let us suppose that a heart contracts with a given power, and all the vessels leading therefrom are highly elastic, which we know to be the case in health. With each contracting stroke of the heart these tubes expand quickly, limited only by the force of the ventricular stroke. This stroke of the ventricle being quick and sharply defined, the larger vessels hold for an instant an increased amount of blood. The aortic valves closing sharply at the

termination of the contraction of the ventricle, the heart is relieved for a moment of the blood pressure from the vessels. Not so with the aorta and great vessels, which for a moment are dilated to an elastic force equal to the power of the ventricle at the close of its stroke. The vessels filled with blood now exert their elastic force upon it, lessening gradually till they reach their undistended calibers. This elastic vessel force, so long as the aortic valves remain closed, is one entirely independent of the heart. Thus we see, the vessels in a state of health do propel the blood independent of the wave or vermicular theory.

Let us now suppose that the vessels lose their elasticity through degenerative muscular change and fibrotic disease. Let it be supposed that their elasticity is largely abolished, and that they approach in this respect unyielding leathern tubes.

The left ventricle contracting with usual force, the blood responds to the pressure of the stroke, and rushes into the large arterial trunks, and thence through the smaller branches. Instead of meeting everywhere with elastic yielding walls which recede from the force of the blood wave from the ventricle, it everywhere meets with rigid resisting force of unyielding tubes. An extra force therefore, exactly equal to the elastic power of the normal vessels, acts counter to the blood current in the arteries and thus extra resistance must fall largely against the ventricle at the moment of its contraction. The first effect of this is to produce a more prolonged contraction of the left ventricle, because a short quick stroke will not relieve the ventricle of all its contained blood as the inelastic arteries do not receive it so quickly. We hence notice a prolonged systolic sound, heard loudest over the region of the left ventricle.

It requires little reflection on the above facts to show that the effects of diseased vessels must produce increased muscular development of the left ventricle, for increased functional necessity is always met with increased physiological development.

Such have been my own reasonings as to the causes of hypertrophy of the left ventricle of the heart which so constantly accompanies granular disease of the kidney, and to my mind it best explains the philosophy of this interesting morbid phenome-

non, as well as its invariable appearance in the early course of the disease.

But it is asked if hypertrophy only results when and as a result of arterial degeneration, why is it that we find it often recorded as an accompaniment of nephritis and amyloid diseases of the kidneys as well? My own opinion is very strong that it is almost never found to accompany a case of pure uncomplicated nephritis, and the constantly decreasing number of cases now recorded since more advanced and accurate clinical observation has been compared with post mortem observation lends strength to the conviction. Bartels says, "I have never yet succeeded in tracing anatomically in the dead body the transition from inflammatory swelling of the kidney into that of true cirrhosis."

With reference to amyloid disease, however, it must not be forgotten that degenerative changes in the vessels is one of the constant pathological accompaniments of that disease which we shall speak of at length in the proper place. It would not, therefore, surprise us so much to find hypertrophy accompanying amyloid disease as that of nephritis, though this too is rare, for reasons which we shall afterwards explain.

It is proper that we should next consider the nature of the morbid anatomy of renal fibrosis. The name perhaps most commonly assigned to it (interstitial nephritis) would rank it among the inflammations, but it lacks many of the elements of a true inflammation. Seldom preceded by congestion, it on the contrary, takes its origin in the most imperceptible manner, and its march is so extremely tardy that we can scarcely conceive the process to resemble even the more chronic grades of inflammatory processes. Grainger Stewart is perhaps the most emphatic opponent of the inflammatory origin and nature of the disease. He denies that free exudation is to be found in the early stages among the elements of the stroma, and he further points out that excessive formation of connective tissue is frequently found, due to other sources than that of inflammation.

Dr. Handfield Jones advocated ably the non-inflammatory doctrine, and after pointing out that fibrous deposits occur in serous membranes, in certain forms of cirrhotic liver, in the mucous tissues of the stomach, in the testicles, uterus and lungs, he says

“that in all these instances, the process may be from the first non-inflammatory, depending on the exudation of blastema tending abnormally to fibrine development, and not simply maintaining the nutrition of the part.” Dickinson, after observing that the disease has nothing in it of inflammatory haste, says: “If the gradual changes in the fibrous tissue which constitute the disorder can be described as inflammatory, the inflammation is of such a slowly progressive sort that it is only in exceptional cases that it is possible to fix the commencement. In the overwhelming majority of instances, the origin of the complaint must be sought, not in chance exposure, nor transient circumstances of any kind, but in influences of a continuous nature.” Bartels says with emphasis, “this process leads from its commencement steadily to the dwindling of the substance of the gland, a wasting preceded by *no anterior inflammatory swelling of the gland.*” In view of all the facts, the true pathology of fibrosis is probably not of an inflammatory character. The process begins in isolated spots in the cortical, and spreads slowly. If inflammatory in nature, we would expect it to be more diffuse. The most vascular portions of the gland are not the ones the disease is most prone to attack. If free exudation were poured out into a gland the nature of the kidneys, it would affect primarily or simultaneously the tubes, and moreover, we would have as a result free albuminuria, which is not the case.

Lastly, the same process takes place in the fibrous tissue of the vessels early in the disease, pointing to some obscure general systemic influence, whose course it is difficult to reconcile with inflammation in its nature.

Some consider the nature of the changes which occur in granular atrophy to be a part of the general fibrotic tendency of old age, and the fact that the great majority of cases occur during advancing age would seem to lend some force to this supposition. At the same time, it must not be overlooked that in a few cases the disease has been found in its typical form in children, and here the same simultaneous early changes are found, both in the hypertrophied left ventricle and in the degenerated blood-vessels.

It is more probable, hence, that whatever may be the general systemic influences determining the process, its primary cause

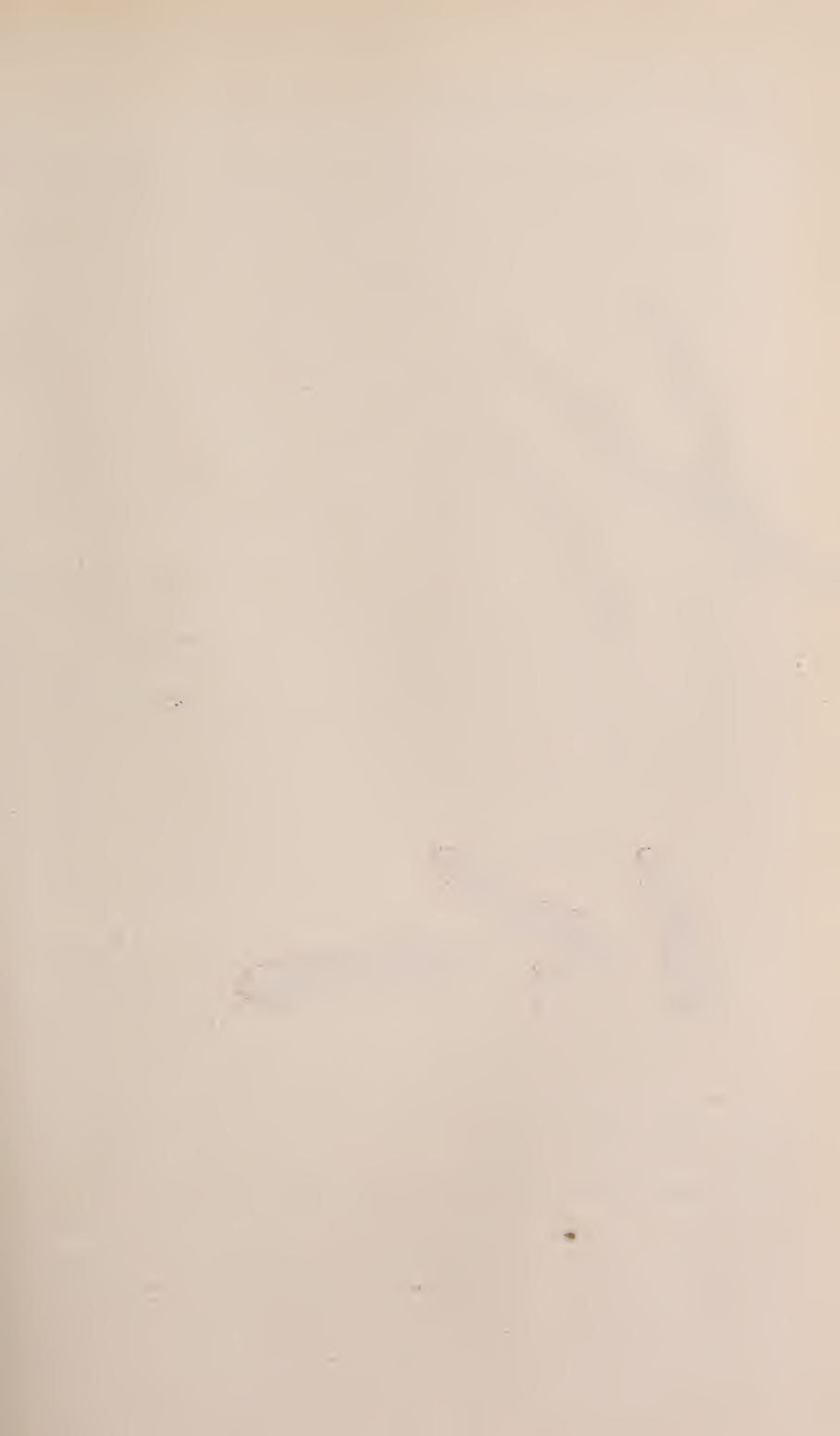
is in some way of a local nature, depending on the kidneys themselves, though the exact nature of this yet remains for science to demonstrate. The fact that it occasionally occurs in childhood in a typical form; that, as claimed by careful observers, it is an occasional sequence of nephritis itself; at least, interstitial changes do occur in the latter stages of nephritis, with changes in the vessels and left heart which, as far as can be judged, do not differ pathologically from fibrosis, and, moreover, its occasional appearance in advanced amyloid disease (though this is rare), would seem to indicate that the whole pathology of the disease must to a great extent owe its origin to some change in the kidneys themselves, though possibly largely influenced by at present obscure constitutional tendencies.

Drs. Da Costa and Longstreth, in the *Am. Journal of Medical Sciences* for July, 1880, publish a paper in which they point out certain changes in the nervous renal ganglion associated with contracting kidney. In nature, the changes consist in a hyperplasia of the connective tissues and fatty degeneration of the nerve cells. They think it is the cause of the renal malady, and precedes the degenerative changes elsewhere, at least that in the kidneys. They claim that the diseased ganglia furnishes the clue to the alterations in the vessels of the kidneys, and that similar changes, producing similar results, may exist in other ganglia, for instance, in the cardiac plexus, explaining the hypertrophy of the heart.

While I should be inclined to ascribe these changes to a part of the general degenerative processes connected with renal fibrosis, it is yet possible that the origin of the latter may have some central relationship.

AMYLOID DISEASE.

The pathology of this disease is quite as far-reaching as that of fibrosis, if, indeed, not more so. As a degeneration or deposit of morbid material, it attacks the small arteries, capillaries, and non-striated muscular fibers in various parts of the body; in the liver, spleen, kidneys, stomach, intestines, pancreas, lymphatic glands, and less frequently in other situations. Dickinson claims that the change is an infiltration of a new material into the tissues,



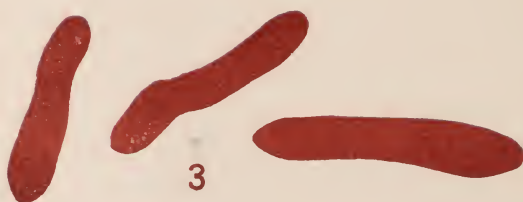


FIG. 1.—Waxy Casts.

FIG. 2.—Usual Change with Iodine.

FIG. 3.—Casts showing Characteristic Amyloid Reaction with Iodine.

and Grainger Stewart is equally emphatic that the process is one of degeneration in existing tissues.

Whatever may be the nature or origin of the morbid process, its recognition is without question a chemical one, resting on its peculiar behavior with iodine solution, which latter instantly turns it a dark brown color wherever found ; be it in the kidneys, liver, spleen, or intestinal vessels.

If the kidneys be examined after death during well-marked amyloid disease, they will be found to present the following characteristics : They are enlarged, perhaps to twice or more than their normal size. As a rule, the capsule strips off easily, showing a pale, smooth, anæmic-looking surface, on which occasionally the stellate veins may be seen prominently.

The organs are usually symmetrically affected. On section, the cortex is found to be increased in thickness, pale, waxy and in thin sections translucent. To the feel it is firmer than normal. The pyramids do not seem essentially altered in color or form. The malpighian bodies are enlarged and are often observed as prominent semitranslucent spots which readily assume a dark brown color when treated with solution of iodine. The capillary walls of the malpighian tufts are thickened owing to infiltration of the peculiar lardaceous matter.

The capillaries of the cortex are similarly involved as are also the vasa recta of the cones.

An exudation of clear glistening material is found in the tubes, the nature of which is not entirely agreed upon. Dickinson thinks it is identical with the amyloid material found in the malpighian bodies and coats of the vessels. Grainger Stewart says it exactly resembles the material of hyaline tube casts, and it does not give the peculiar reaction with iodine. Some observers claim to get the iodine reaction on these casts though not by any means uniformly so, in fact it may be considered an exception rather than the rule.

The tubules themselves are peculiarly affected. Amyloid infiltration without doubt takes place in the basement membrane thereof. The epithelial cells may become enlarged, lose their outlines, and become the seat of fatty deposit. While we thus have swelling both of the epithelium and of the basement mem-

brane and consequent thickening of the tubule, yet, the lumen of the tube does not become contracted or narrowed in its diameter, but, on the contrary, remains remarkably open. This peculiarity becomes very striking on transverse section, when the open end of the tubule preserves its marked rounded outline, like the open end of a gun barrel.

It is not usual for the epithelium of the tubes to desquamate or break down unless some degree of nephritis complicates the case, which it may do in the latter stages, and then, as we would expect, the urine decreases in quantity and we get epithelial casts in the urine. The swelling of the organs is due to thickening of the vessel walls, swollen cells and basement membrane of the tubules, and more or less dilating of the tubes with material forming casts, and swelling of the malpighian bodies from similar causes.

Such are the typical changes found in the amyloid kidney after death, in well marked cases. But the pathology of lardaceous disease is not confined to kidney structures, and moreover, does not originate there in all probability and hence, a brief consideration of the morbid anatomy found in other organs becomes necessary to understand fully the pathology of the disease.

The liver is pretty-constantly found enlarged, pale waxy looking, and shows similar translucency at the borders of sections made with the knife. The cells are found enlarged with obscured nuclei. The smaller arteries manifest the same degeneration as those found in the kidneys. These morbid deposits, if we may so term them, respond to the iodine test the same as those in the kidney.

The spleen is almost constantly enlarged in amyloid disease and often enormously so. Here, too, the small arteries are the primary seat of the morbid change which, however, also involves the malpighian bodies and often the pulp.

In the intestines the small arteries become the primary seat of disease, the epithelium of the mucous membrane also degenerates, and the muscular coat of the villi are a prominent seat of the disease. According to Grainger Stewart, however, the substance of the tissues of the villi never becomes affected and rarely the muscular substance of the middle coat. Dickinson points out

that, in the intestines the exudation instead of being retained in the tissue, passes off like a secretion from the surface, giving rise to vomiting or diarrhoea, or both.

In the pancreas and lymphatic glands the small arteries are the principal seat of morbid change; rarely if ever does the secreting structure of these glands become involved.

Such are the most common structures involved in the course of amyloid disease. Less often, however, other structures suffer, and indeed, if the records are searched, it would be difficult to find tissues supplied by vessels which are exempt. The muscular fibers of the uterus and the arteries of the vagina are sometimes said to become diseased. Dr. Bennett claims to have discovered characteristic amyloid change in the placenta. In the heart Stewart has distinctly seen waxy vessels. Dr. Gardiner has found the same in cancer, and some observers speak of its presence in the lungs and brain.

As to the chemical alterations found in the urine during the progress of amyloid disease, water alone is increased and very largely so, in all cases till the latter stages, when it becomes diminished, probably as a result of disease of the tubes setting in. Urea is decreased, but not to the extent it is in either of the other forms of renal disease. The average may be placed at 15 to 20 grammes per day. The uric acid varies much. It may even be normal but usually it is diminished, and it is said sometimes to be absent.

Phosphoric acid is always reduced and more uniformly so than in either of the other forms of kidney lesion. It is usually reduced to about one-sixth the normal amount say one-half gramme daily or less.

The sulphuric acid is less marked in its reduction than that of phosphoric and hence it is usually equal to or in excess of the latter averaging about a gramme; chlorine is reduced less than in nephritis but more than in fibrosis.

Alkali salts are below the normal quantity as in other forms of renal disease probably the potash and soda salts are much more so.

Albumen is present, ranging from 40 to 60 per cent. by bulk.

Let us now ask ourselves what is the true pathology of the disease under consideration, and what is the nature of the morbid process resulting in this deposit found so profusely distributed over the vascular system and tissues of so many organs?

Dickinson is a strong advocate of the exudation doctrine and for a most elaborate discussion of this question with many interesting experiments thereon I would refer you to his recent excellent publication on the subject.

It has been shown by analysis that the morbid material is nitrogenous in its composition, and it is probably more closely related to fibrine than any other nitrogenous principle.

In a paper contributed to the fifteenth volume of the *Medico-Chirurgical Transactions* in 1867, by Dickinson, he thus discusses this question. "Lardaceous material is soluble in alkalies, and the morbid material has been dissolved out by alkalies, leaving the normal tissues almost untouched. If tissue containing the morbid product be washed with water, and afterward with dilute caustic potash, the tissue no longer yields the characteristic amyloid reaction with iodine." That there is a deficiency of potash in the diseased formation, he reasons as follows: "The amyloid reaction is always associated with the condition of acidity, for tissues soaked in a solution of hydrochloric acid will give a deeper tint with iodine than those which are not thus treated. Again, albumen precipitated by an acid will take and retain the color of iodine, which it will not do if not thus acidified. Fibrine, treated with the same acid, gives a striking counterfeit of amyloid material, which in all respects reacts with iodine so nearly similar to amyloid matter that it seems akin to the morbid product. Lastly, the realkalization of the fibrine will render it again insusceptible of lardaceous reaction." He further shows, by statistics of his own and those connected with St. George's Hospital, that four-fifths of the cases of amyloid disease arise from suppurative causes. It is well known that suppuration draws largely on the alkalies of the blood, as proven by the decided alkaline reaction of pus, and also the marked diminution of alkalies in the blood during exhaustive suppuration. The position of Dickinson in this matter at first sight would seem a very reasonable, if not a strong one.

But Ebstein, in a very careful review of the subject, distinguishes between albuminoids proper and the amyloid material very distinctly, as follows: "Their similarity is that they both are closely allied in their chemical composition, both give the xantho-protein reaction, and respond to Mellon's test, and if boiled in a dilute acid, they conform to leucin and tyrosin in the products into which they subside. But, on the contrary, amyloid matter has greater power of resistance to many solvents, especially its utter insolubility in dilute gastric juice. Again, amyloid material does not putrefy, even in months, and it resists most obstinately suppurative action."

Friedrich affirms that the morbid product results from the gradual transformation of fibrine.

Whatever may be the exact nature of the morbid material which everywhere responds to the iodine solution so characteristically, its method of production is explained in two ways. Dickinson, as before mentioned, claims that it is a free exudation from the blood into the tissues, and in this he is supported by Budd, Portal, Rindfleisch and others.

Grainger Stewart opposes this doctrine with considerable force. He thinks if the process were simply an infiltration, it would not confine itself to the coats of arteries, but would infiltrate rather the softer tissues of organs, and not confine itself to limited portions of the same. He claims that the process is essentially one of degeneration, presenting exactly the characters of such, from the slightest alterations down to disorganization of structures.

I am inclined to believe that the morbid material is the product of albuminoids, modified in some form, first by a predisposition of the general system through certain diseases, such as syphilis, scrofula, suppuration and like processes, which profoundly modify the healthy character of the blood, and that the elaboration or transformation of this albuminoid matter is accomplished at the locations where it is found, for if the change occurred in the blood, then the morbid material should be susceptible of demonstration in that fluid, which, as yet, it never has been.

The process is, therefore, at least very closely allied to degeneration, which, in turn, may be the determination of a succeeding infiltration of the material, already considered.

APPROXIMATE TABLE OF URINE.

URINE IN HEALTH FOR 24 HOURS.	NEPHRITIS 24 HOURS.	FIBROSIS 24 HOURS.	AMYLOID KIDNEYS 24 HOURS.
Sp. Gr.....1020	1020 to 1040	1008 to 1018	1002 to 1015
Urea..... 512 Grns	140—250 Grns	160 to 280 Grns	256—350 Grns
Uric acid..... 8½ "	6—10 "	none—8 "	none—8½ "
Phosphoric acid..... 48 "	20—30 "	2 or 3—24 "	6—12 "
Sulphuric acid..... 31 "	20—25 "	25—30 "	22—28 "
Chlorine 1.6 "	none—50 "	100—120 "	40—90 "
Chloride Sod..... 210 "	Diminished	20—200 "	Greatly reduced
Soda 171 "	"	Diminished	" "
Potash.....26—107 "	"	"	" "
Water.....35—60 oz	4—30 oz	Normal or over	Greatly increased
Albumen.	60 to 90 % by bulk.	6 to 20 %.	40 to 60 %.
Tube Casts.	Epithelial (characteristic) hyaline and dark granular casts; blood casts fatty in last stages.	Hyaline, pale granular. In latter stages dark granular, fatty casts.	Not numerous. Hyaline; fatty; waxy; sometimes reacting with iodine.

ARTICLE III.

THE UNITED STATES PHARMACOPEIA. Revision of 1880. By
C. E. CLACIUS, PH.G., M.D.

This long-expected volume has been received, perused and criticised with all the curiosity and interest due to its importance. Although no law makes it obligatory upon any physician to prescribe the remedies formulated therein, or upon any pharmacist to keep them, as it is merely an agreement between the regular medical and pharmaceutical professions, that the latter shall have on hand certain remedies, with which the former will treat their patients, it is a matter of great importance, that this agreement be strictly observed, to secure all over the country a uniformity of those remedies in effect, taste and appearance, which is essential for the final result, viz: the healing of the sick, and for the material benefit of the profession.

This latest revision of the pharmacopœia is particularly interesting, more so than its predecessors; not so much for the numerous additions of new remedies or the omission of obsolete ones; not so much for the improvement of the classical Latin, or

for the restoration of the masculine gender to some names which for the last twenty years have erroneously passed for feminine, but for the abolition of the ancestral system of weights and measures, and the substitution therefor of *parts by weight*, in decimal proportions. This is a decidedly progressive step, and it is only to be regretted that the step is a little too short. The old octesimal system, with its Troy ounces of 480 grains and its avoirdupois ounces of 437 grains; with its pounds of twelve and of sixteen ounces; with its imperial gallons of 160 and apothecaries' gallons of 128 ounces, has existed too long, and given much annoyance to all who had to use them. Therefore the new arrangement, however defective it may be, is welcomed as the initiatory step toward a great improvement: a uniformity of weights and measures in every business, the introduction of the metric system in this country. Although continental Europe has introduced this system long ago, and although it has been accepted in scientific literature all over the world, the United States have, since they gave up the shillings and sixpences for dimes and half dimes, done nothing toward a uniformity among themselves and with other nations in the measure of values. The people of this country still use pennyweights, various kinds of ounces, bushels and Fahrenheit's thermometer, in all of whose favor nothing can be said except that the fathers have used them.

The new pharmacopœia has now adopted a decimal system, at least in the proportional strength of the preparations. That strength was formerly in drachms to ounces, and ounces to pints; now it is in proportions of 1, 5, 10, 15, 20, etc., in 100 parts. Thereby of course the strength of every single remedy is changed, of some in a higher, of others in a lesser degree, and while, in the large majority, the difference is hardly worth noticing, it is in some of the preparations of considerable importance.

Like every innovation and improvement, so brings this, beside its advantages, considerable temporary trouble and annoyance. The physicians, in making their prescriptions, have to accommodate their calculations of doses to the new order of things, and it cannot be denied that it will be quite a task for the memory of the practitioners to become familiar with the new strength of the

remedies which they are in the habit of using. The pharmacopœia has on pages 454 and 455 a table, which comparatively shows the difference in the revisions of 1870 and 1880 of such remedies where either the remedy or the difference, or both, were of sufficient importance to deserve special attention. That table is given below, and to facilitate the desirable acquaintance with the names, those remedies now stronger have been separated from those which are now weaker than in the former issue.

For the pharmacist, the trouble caused by the innovation is of a different character. His memory is not taxed much, because he has the book with the formulæ always on hand for information, but in this transitory period from the old to the new formulæ, he is occasionally called to account by the consumers of the medicines for a difference in taste and appearance of remedies, which, however slight it may be, is noticed by some sharp tongue and eye, and to avoid being suspected of having made mistakes, he has to keep on hand for the repetition of old prescriptions, the preparations of the old issue, beside the new ones. That state of affairs, however, will be only transitory, the new rule will soon reign supreme, and the old one be forgotten.

Besides the difference in the strength of remedies in the new issue, caused by the adoption of decimal proportions, another factor has to be taken in account by the physician, when he contemplates the dose for his patient, viz : the specific gravity of the fluids. The decimal proportion is calculated for the weighed fluid, not for the measured ; but in dispensing, the fluid is measured, not weighed. The measured fluid ounce of 480 minims of an ordinary tincture, made with diluted alcohol, weighs only 450 grains, and the weighed ounce of 480 grains of the same fluid measures 510 minims ; thus we have in 510 minims the decimal proportion of 480 grains (in a tincture of 10 in 100, 48 grains, not the decimal proportion of 510), because the alcohol weighs so much less than water. In the tinctures made with stronger alcohol, the difference is still greater; there the measured ounce weighs only about 420 grains, and the substance belonging to 480 grains is in 570 minims. Further, tinctures, made of an equal quantity of substance, and with the same menstruum, vary in specific gravity, because some drugs contain more extractive matter than others

which enters into the liquid and increases the gravity. On the other sides are the heavier fluids. A fluid ounce of syrup weighs 660, but 480 grains have the proportional strength of an ounce. Take for instance, syrup of ipecac. The new formula is: fluid extr. ipecac, 5 parts; simple syrup, 95 parts (of course by weight); the calculation would be, that the strength of that syrup is one in twenty, and that a teaspoonful contains 3 grains of the root, but it is not so; the fluid ounce of 480 minims has the strength of 660 grains, which means 1 in 16, or 4 grains to the teaspoonful. Thus the physician's calculations are somewhat marred by the specific gravity, and this is caused by the directions to use parts *by weight*.

The committee on revision state in the preface to the Pharmacopœia, that when they directed in the formulæ the use of parts by weight, they did so partly by the instructions of the convention which appointed them, partly with the intention to adjust the proportions of the new formulæ, so that the new preparations would not differ materially from the old ones. Is not this strange? The strength of every single remedy is changed for the sake of having decimal proportions, and then again are the decimal proportions sacrificed in order to keep nearer the old strength. The remedies are directed to be made by weight, while they are prescribed, dispensed and taken by measure; the trouble of calculating the doses is increased for the physician by bringing into question the specific gravity, merely to make the difference a little smaller, while a difference remains. If the committee of revision had made the progressive step a little farther, and had left out the words by weight; if they had adopted in all formulæ grammes and cubic centimeters, as they have done in the manufacture of fluid extracts, the physicians in calculating doses would have found a little more difference in the strength, with which, however, they would have become familiar as soon as with the smaller, but then the formulæ would have been more permanent, while, as it is, the committee of the next revision in all probability will have to cut another inch off the dog's tail, by converting the fluid weight into measure again.

Among the remedies which have been greatly affected by the new rule, opium and its preparations deserve to be mentioned.

Not only have the liquid preparations changed in proportional strength, powdered opium itself, of which they are made, has been raised in its standard morphine value. While the former issue directed that no opium should be used containing less than 10 per cent. morphine, the new one says that opium shall not contain less than 12 nor more than 16 per cent. morphine. Although the chances of morphine in opium are thus somewhat contracted, there are still 4 per cent. left in which it can vary, which shows that opium, though one of our most valuable remedies, is a variable drug. That this new ruling in regard to the morphine strength in opium will cause any particular change or difference is very doubtful, for the reason that opium of the standard strength of the old revision, that is of 10 per cent. morphine value is such a poor quality in the market that it never has been used by pharmacists who are able to judge and analyze opium, and conscientious enough to buy drugs of best quality. Those men, it may be asserted, have always used an opium of such quality as the new revision requires, consequently there will be no change. Such pharmacists, however, who have never known nor cared about the quality of opium they have used, will hardly change their tactics now.

This change in the standard strength of opium, together with the increased proportion of the drug to the tincture under the new decimal system, has given rise to various widely different opinions about the comparative strength of the former tincture and the present. The two extremes appear to be on one side: the committee of revision, who, in the mentioned differential table gives the strength of the former 9 in 100, of the present 10 in 100, difference 10 per cent. On the other side, Dr. E. R. Squibb, who, in the *Ephemeris* of November, 1882, states, that the present tincture is 50 per cent. stronger than the former. Let us see. The former pharmacopœa directed to make 1 quart = 32 fl. ounces of tincture of $2\frac{1}{2}$ ounces of opium, that makes $37\frac{1}{2}$ grains in one fluid ounce of 480 minims, or 1 grain $12 = \frac{1}{2}$, or 8 in 100. Where the committee get their 9 in 100 is a mystery. The new tincture has 10 grains in 100, if we overlook the small difference caused by the specific gravity, by which there are 48 grains in 510 minims instead of in 480. According to these

figures 4 drops of the new tincture would be equal to 5 of the former, and physicians may feel pretty safe in such calculation. Doctor Squibb, in his estimate, gave the difference in the morphine strength too much consideration, and, for reasons stated above, is theoretically more right than practically.

The deodorized tincture—the wine—which formerly contained 1 grain in 8, the vinegar, which had 1 grain in 6, also the new preparation, tincture of ipecac and opium, or tincture of Dover's powder, have all now the same opium strength of 1 in 10, as Dover's powder always has had. Dover's powder is made with sugar of milk instead of sulphate potassa, which may occasionally be the cause of inquiry from people, who notice a difference in taste.

The arsenical solutions, liquor potassæ arsenitis and liquor acidi arseniosi have been advanced in strength from 4 grains in 1 ounce (480 minims) to 4 grains in 400, or 1 in 100; 5 drops of the present equal to 6 drops of the former.

The diluted mineral acids have suffered a change; in order to bring them to the decimal proportion, diluted hydrochloric acid had to be made stronger, diluted nitric acid had to be reduced, as is shown in the table; diluted nitro-hydrochloric acid, which the table does not mention, has been reduced from 25 in 100 to 19 in 100.

Extract of aconite, which was formerly made of the leaves, is now made of the root. Extract and tincture of conium are now made of the fruit or seed instead of the leaves, because of the superior strength of the substituted drugs. But we find nowhere an answer to the question: How much stronger are the new proportions than the former? How can physicians who have been prescribing extract of conium in full doses, know how much of the new will have the same effect as the old; if the new is much stronger, harm may be done if the pharmacist uses it, when the physician expects to have the old. What can the pharmacist do in such cases? If he has used up all the old extract, of course he prepares the new; perhaps he keeps both kinds, but how shall he know which to give? In this transitory period it would be advisable for physicians, when prescribing any of the remedies which have changed much in strength, to signify which

they intend to have. Very desirable it would have been, if the committee of revision, who undoubtedly had experimented and found the difference in the strength before they directed the change, had said something about the differential doses.

Among the additions the eye is met first with the new remedies: Abstracts, dry saccharated extracts of twice the strength of the crude drug and fluid extract, and about half the strength of the solid extract. They were adopted "because a demand had arisen for them," the committee says. Writer has some curiosity to know whence that demand came. The pharmacies keep already of those remedies, the crude drug, tincture, fluid extract, solid extract, and generally, also, the resinoid; what is to be done with the abstract? It is not to be presumed that physicians will commence to give their patients extracts in powder form at an age when medicines, much less objectionable to the taste, have to be covered with sugar or gelatine or given in sweet elixirs to be tolerated. It does not appear desirable to have the 75 per cent. of sugar of milk in ointments or suppositories, or in pills. In the latter it would increase the size unnecessarily, as so much inert matter, while the solid extract in combination with quinine or other powders acts not only as medicine, but also as vehicle to form the mass. An argument has been made in favor of the abstracts, viz: that the solid extracts in the market are to some extent made of the drugs, after the latter's exhaustion by tinctures or fluid extracts, consequently did not represent the medicinal value of the drugs. The reply to that would be, that no pharmacist should buy his extracts, he ought to make them, then he knows they are good, provided he makes them right, and whoever does not make his own extracts will not make the abstracts, and the chances of being imposed upon by inferior preparations are the same. The only advantage apparent in the use of abstracts is a greater facility for the pharmacist to weigh 5 or 10 grains; that, however, seems hardly of sufficient importance to introduce a new series of medicines so nearly alike those already on hand.

A valuable addition is the compound powder of glycyrrhiza, which for a number of years past has gradually worked into the favor of practitioners. It originally was a sort of arcanum, com-

posed and used by a Doctor Kurella, who used it more for throat and pectoral troubles than as a laxative; later it was adopted by various European pharmacopœias, which, up to this date, give as a synonym, "*Pulvis pectoralis Kurellæ*." The new pharmacopœia in adjustment of the decimal proportions has increased the quantity of senna by 2 per cent., which seems very proper, as it is used here mostly for its laxative virtue.

The numerous additions are found in a table on pages 436 to 441. Many valuable remedies can be noticed there; some quite new; others not new, but now found worthy of a place in the pharmacopœia. One formula is in the book for—it is difficult to say what; it is not a remedy, not prescribed by physicians, and the majority of pharmacists would never use it, the *spiritus myrciæ* or artificial bay rum; it stands there with a solitary impropriety, and suggestion has been made that it either should have company by formulæ for artificial cognac and for communion wine, or should itself be banished.

Many of the profession were disappointed not to find in the new issue a number of formulæ for elixirs, a demand having arisen for them for a long time, the neglect of which severely injures the interests of both professions. There are a number of combinations which have proved valuable and which are constantly prescribed, but if the pharmacopœia gives no formulæ, by which the pharmacists can uniformly make them, their manufacture will be continued outside of the profession by a few parties, who will place them in the market like patent medicines.

The manufacturers introduce them to the public through the physicians, and in a short time the public obtains them everywhere without the assistance of the medical profession. There are many people now who buy their quinine, quinia, iron, strychnine pills and others at the wholesale houses. Elixirs likewise—and they may soon buy them in any grocery, if the indifference to the mutual interest continues. Some standard formulæ for combinations, mostly used, of elixirs, for a standard emulsion of cod liver oil, with which the physicians could combine anything they wish, would cause much improvement; the formulæ are known to most of the intelligent pharmacists, and all that is necessary to be done, is, to establish them as a standard for uniformity.

Since the pharmacopœia has not given any of these formulæ, it is to be hoped that the dispensatories or commentaries, which generally follow its new issues, will supply the want, and that the professions interested will, in such cases, recognize them as standard.

PRINCIPAL CHANGES AND DIFFERENCES IN THE STRENGTH OF PREPARATIONS
OF THE NEW AND OLD PHARMACOPŒIAS.

STRONGER IN THE NEW ISSUE.		1870.	1880.	WEAKER IN THE NEW ISSUE.		1870.	1880.
Acidum aceticum.....		35.	36.	Acetum lobeliæ.....		13.	10.
“ “ dilutum.....		4.5	6.	“ opii.....		16.3	10.
“ hydrochloric, dilut.		7.8	10.	“ sanguinaræ.....		13.	10.
“ phosphoric, “.....		9.8	10.	“ scillæ.....		13.	10.
Alcohol dilutum.....		39.3	45.5	Acidum nitricum dilutum.....		11.6	10.
Confectio Sennæ.....		8.32	10.	“ sulphuric, dilut.....		12.1	10.
Extractum aconiti.....	Leaf.		Root.	“ sulphurosum.....		6.4	3.5
“ conii.....	Leaf.		Seed.	Ferri et quiniæ citras (quinine)....		16.	12.
Liquor acidi arseniosi.....		0.87	1.	Liquor potassæ.....		5.8	5.
“ ferri chloridi.....		35.	39.	Spiritus camphoræ.....		14.	10.
“ potassæ arsenitis.....		0.87	1.	Tinctura aconiti.....		47.6	40.
Opium pulvis.....		10.	12.16	“ aloes et myrrhæ.....		12.	10.
Spiritus anisi.....		6.8	10.	“ arnicæ.....		23.	20.
“ cinnamomi.....		8.	10.	“ colombæ.....		15.	10.
“ juniperi.....		2.	3.	“ cannabis indicæ.....		36.	20.
“ lavandulæ.....		2.	3.	“ cinchonæ.....		25.	20.
“ menthæ piper.....		6.4	10.	“ cubebæ.....		15.	10.
“ menthæ viridis.....		6.4	10.	“ guajaci.....		23.	20.
“ myristicæ.....		2.	3.	“ ammoniata.....		23.	20.
Tinctura aloes.....		3.3	10.	“ nucis vomicæ.....		3.5	2.
“ asafetidæ.....		16.	20.	“ serpentariæ.....		15.	10.
“ cantharidum.....		3.5	5.	“ veratri viridis.....		55.	50.
“ capsici.....		3.5	5.	“ zingiberis.....		31.8	20.
“ catechu compositi.....		7.	12.	Unguentum acidi carbolici.....		12.	10.
“ conii.....	Leaf.		Seed.	“ belladonna.....		12.	10.
“ gaulæ.....		15.	20.	“ gallæ.....		12.	10.
“ humuli.....		17.5	20.	Vinum opii.....		13.	10.
“ myrrhæ.....		12.	20.	“ rhei.....		14.	10.
“ opii.....		9.	10.				
“ opii deodorata.....		9.	10.				
“ quassiæ.....		6.	10.				
“ rhei.....		10.	12.				
“ valerianæ.....		15.	20.				
“ valerian. ammon.....		15.	20.				
Unguentum acid. tannic.....		6.	10.				
“ hydrargyr. ammoniat.....		8.	10.				
“ hydrargyr. oxyd. flav.....		8.	10.				
“ zinci oxydati.....		16.	20.				
Vinum ergotæ.....		12.5	15.				

322 W. Madison St.

ARTICLE IV.

A COMPARATIVELY SAFE IF NOT NEW OPERATION FOR VARICOCELE.—By R. G. BOGUE, M.D., Chicago.

Fred. Horner, aged 11 years, a loose fibered, thin skinned lad, but not delicate, has had enlargement of the left side of the

scrotum for several years, which has gradually increased in size. The scrotal veins of left side are very large and tortuous and the skin of scrotum very thin ; has for a long time worn a suspensory bag, which has afforded but little relief, and has not prevented the steady enlargement.

From considerations which will be given further on, I was led to decide upon the plan of operation adopted in this case, which to me is new. It may be an old and discarded operation, but from having given some thought to the subject of "radical cure operation" for varicocele, I believed that this operation contain elements of safety which none of the list of recognized operations for varicocele do not.

March 19, 1880, with the assistance of Dr. John Bartlett, and using the carbolated spray, I made an incision over the lower part of the cord and upper part of the scrotum, about one and a half inches in length, exposing the veins, and by use of an aneurism needle ligated the veins at four points with fine plaited silk ligature, which had been thoroughly carbolized, tied tightly and cut the ends close to the knot. I supposed that I tied two veins, each at two points, left a small drainage tube in the lower end of the wound and closed it with horse hair sutures, covered the parts well with carbolated gauze and supported the whole scrotum with a pad between the thighs so that there should be no dragging upon the cord. On the second day the drainage tube was removed, and the sutures were removed on the second or third day following. The wound healed very kindly, without a drop of suppuration. The dressings were changed each day and the parts bathed or cleansed with carbolated water. There was left an indurated and tender mass, where the ligatures were, about the size of the last joint of the little finger. After two weeks the boy was allowed to be about ; the scrotum supported by a suspensory bag. At first it seemed that little or nothing had been gained. The veins were as large and numerous in the scrotum below the point of ligature as before. But the tenderness and induration began to disappear, and finally the parts became entirely supple and the scrotum about one-half its former size. The ligatures could be felt as little hard bodies, but causing no annoyance. One or two veins could be followed along the cord.

On July 31, 1880, with the assistance of Doctors Bartlett, Parkes and Hooper, I cut down upon the veins at the point of previous operation, and applied three fine silk ligatures, two around one vein, about one-third to half an inch apart, and one about the other. The wound was closed and dressed as before, and it healed as kindly. The induration at point of ligation disappeared faster, leaving no veins to be felt in the scrotum, showing that all of the veins had been obliterated, and now, about four months after the second operation, the left side of the scrotum is no larger than the other; there are no large veins, and the testicle is firmer and larger than before the operation. The several ligatures can be felt as little firm bodies, but no tenderness about them. They have in this case proved to be entirely inoffensive to the tissues, having served the purpose for which they were used and then the tissues immediately about them not being irritated by their presence.

Radical cure for varicocele consists in destroying the main scrotal veins as blood channels. This has been accomplished by ligation in open wounds, by subcutaneous ligation with silk and metal, by compression with needles, pins and wires variously applied. By these methods the veins and all other tissues included within the appliance are to be cut through by ulceration. Another method is compression of the vessels by tying over the ends of needles thrust through beneath them. The needles and ligatures are left in place until sufficient inflammation has been provoked to obliterate the veins. Whether this is uniformly accomplished, or whether attended by any unpleasant or unfortunate results, I am unable to say. Another operation which has been resorted to is that of cutting away a goodly portion of the skin of the scrotum, that by such retrenchment the scrotal contents should be held up, a kind of substitute for a suspensory bag.

Most, if not all, of these methods have been and are still considered dangerous operations. Dangerous to the patient from gangrene, suppurative phlebitis, septicæmia and pyæmia.

Deaths from these have happened often enough to lead most of the authors to be very chary in recommending radical cure operation, if it can be avoided. One says "Don't operate unless

the patient urges it upon the surgeon." Operation for varicocele has been known to be dangerous to the surgeon, for Delpeck, a famous French surgeon, was assassinated by a man on whom he had operated for varicocele of both sides, the man believing that the operation was the cause of his loss of sexual desire. The particular operation in this case is not mentioned.

It is proper to inquire into the causes of danger in this operation. Does it depend upon some peculiarity of the structures operated upon, or is the suppurative inflammation or gangrene, with its septicæmia and perhaps pyemia due to the kind of operation resorted to, or in other words, is it due to the manner in which the veins and the neighboring tissues have been treated?

Operation upon large veins in their continuity, has been considered more or less dangerous; but they give no special anxiety when encountered in an open wound. Under such circumstances they are either left to themselves, or if inclined to bleed, are ligated either one end or both, as the case may suggest, the wound of the vein, or the ligation thereof, seldom being accused as the cause of any untoward results which may follow. As to the parts implicated and the operation under consideration, we are inclined to believe that the fault lies in the kind of operation, instead of any peculiarity of the parts. The parts are peculiar, for the contents of the scrotum receive their blood supply by a limited number of long slender arteries, and the blood is returned by only a few long veins, and it is an easy matter to cut off nearly all the supply of blood and also prevent almost wholly the return flow. And really this is what is accomplished by the operation, which has the endorsement of all the authorities.

A needle is thrust through at a point selected in the very upper part of the scrotum, or lower part of the cord in front of the vas deferens and behind the veins, hoping to leave the arteries also behind the needle; another needle is to be passed in front of the veins, and by means of wires attached to the needles to hold them in apposition, they are rolled and in this way the parts included are to be compressed by twisting, or a ligature of silk or wire is to be passed through in the place of the needles and the tissues included strangulated by tying or twisting, or by

means of a needle behind and a ligature tied over the ends, all of the tissues in front and a portion of skin are included in the strangulation. Now what has been included within the strangulating appliance besides the enlarged veins which are alone the offending bodies? Nearly everything making up the cord at point of operation except the vas deferens; nearly all of the vessels for supply, nearly all the channels of return, the connective tissue, fascia, cremaster and nerve filaments. By strangulating this mass, the parts beyond are certainly put into about as favorable condition for sloughing as could well be done, excepting the old rude way of treating bucks, which was by tying the whole appendage at the top of the scrotum. Gangrene is as likely to follow the sudden arrest of flow of venous blood from a part as to cut off the supply of arterial blood, particularly so in a distant and dependent part. We are disposed to believe that there is safety in cutting off the channels of blood return, not all at once, but by two operations. If there are three or four enlarged veins, cut down upon them at the upper part of the scrotum; expose and ligate separately each vein, leaving at least one. I think it full better to ligate them at two points, half an inch or so apart; by so doing, a section of the vein will be obliterated. In this way, all of the venous flow is not arrested, only the major portion. Some inflammation will follow, but the parts beyond are not endangered. While recovery from this operation is going on, there will be established collateral circulation sufficient to allow a second operation, ligation of the remaining enlarged vein or veins, with equal safety. The second operation should not be made until all induration from the first has disappeared. And, if the operations are made with the antiseptic precautions, and thus treated, I believe that all of the special dangers attending radical cure operation for varicocele are done away with. Certainly, if there is danger, it is the minimum amount, and with less suffering than by any other operation. Catgut ligatures would, no doubt, answer just as well as silk.

I operated upon a case, several years ago, where the scrotum was much elongated, the skin thin, the veins large, and the patient an adult, by what is called the Henry Lee plan, which consists in subcutaneous ligation of the veins at two points, about one inch

apart, and subcutaneous division of them between the ligatures. It was followed by gangrene and sloughing of the testicle and scrotum of that side, and an attack of septicæmia, which, for a few days, endangered the life of the patient. From the loss of tissue and cicatrization there was thorough retrenchment, and the man had no more pendulous scrotum to annoy him; but it was secured at no little risk.

This case led me to examine the subject, to see whether there might not be found some operation which would be less likely to endanger the parts, and, we believe, that the operation herein advised, to be more reasonable and less dangerous than any other, for only the veins are ligated, leaving all the other structures uninjured, the flow of blood to the parts not interfered with, and the venous flow not wholly arrested at one time; all of which must tend to secure the minimum amount of injury and risk.

ARTICLE V.

CASE OF COMPLETE VERTICAL DISLOCATION OF THE PATELLA. By CHARLES T. PARKES, M.D.

In September, 1882, Dr. C. W. Johnson requested me to see a patient who had been injured about the knee some two hours previous to his call. The doctor had already diagnosed a vertical dislocation of the patella. Upon reaching the patient the following history was elucidated. The man, in attempting to get on to his coal wagon, of which he was driver, made a mis-step and fell to the ground with his knee in the bent position. In falling, he struck his right knee against a large piece of coal. Immediately he found he was unable to bend or extend his limb and any attempt to do so was accompanied with terrible pain. Dr. Johnson was called, examined the man, and had him sent to his home.

We found the patient in much pain, with the leg very slightly flexed and fixed in that position. The knee-joint was much broadened anteriorly and the trochlear surface of the lower end of the femur was easily mapped out beneath the stretched integu-

ment. To its outer side was a very prominent elevation made of the patella lying in a vertical position and resting upon its inner edge, so that its subcutaneous surface was turned inwards and its articular surface outwards, both of which could be traced beneath the integument.

Diagnosis, a complete outward vertical dislocation of the patella—a half revolution on its longitudinal axis with the inner edge turned downwards and outwards.

The bone was rigidly fixed in its abnormal situation, allowing of no change in its position; the obstacle to motion consisting in the tense condition of the fascia lata and ligamentum patellæ. The patient was anæsthetized and the reduction attempted. Dr. Johnson flexed the thigh upon the abdomen and extended the leg, both positions being carried to the fullest extreme. I then attempted, by lateral pressure in the opposite direction upon the edges of the patella, to replace it. Several efforts ended in failure, the bone being still held fast by its fibrous attachments. By flexing the leg strongly, I found that the now anterior edge of the bone was drawn outwards in the direction of its normal situation, and the vertical position of the bone altered somewhat. I then directed Dr. Johnson to flex the leg as strongly as he could, and to be ready to extend it suddenly as soon as I gave the word.

After flexion was as complete as it could be made, I placed the end of my pocket knife against the inner (now lower) edge of the bone, pushing against it inwards and forwards, so as to increase the outward inclination of the bone produced by the flexion, and at the same time to raise this edge above the outer rim of the trochlear facet of the femur. As soon as I felt this object was accomplished, sudden extension of the leg was made and the displaced bone slid quietly into its proper position. Hot fomentations were directed to be applied to the joint constantly. The young man remained in bed four days and returned to his work inside of two weeks. There was no troublesome effusion, inflammation or tenderness of the joint following the accident. The patient was a man 20 years old, very tall for his age, rather slender and had large lower joints.

REMARKS.

Vertical dislocations of the patella are acknowledged by all writers to be of rare and unusual occurrence; indeed the time has not long passed since it was considered, by noted surgical men and authors, to be an impossible accident.

Of the twenty or more cases I have been enabled to refer to, none of them are described as being as complete as the one coming under my care. In the recorded cases, the edge of the patella rested in the depression separating the facets of the trochlear surface of the femur, and this position is given as the normal situation of the bone in vertical dislocations by Professor Agnew in his "Surgery," p. 109, Vol. II. In the case now reported, the inner edge of the patella was thrown entirely external, clearing the femoral articular surface absolutely, and rested against the outer tuberosity of the external condyle of the femur, so that the *inner* border of the displaced bone was fully half an inch behind the highest point of the outer rim of the trochlear facet of the femur. Except during voluntary movements of the limb or during passive efforts of flexion or extension, there was no unusual contraction of the quadriceps extensor muscle, it was flaccid and slightly movable laterally. The ligamentum patellæ was very tense, and so also in a remarkable degree was the ileo-tibial band of the fascia lata throughout its entire length. Certainly nothing would have been added to the ease of reduction by a division of the quadriceps tendon—a procedure resorted to in some of the failures to reduce by manipulation. I am convinced that complete anæsthesia banishes all obstacles to a reduction of the displacement, mainly because it does away with the powerful involuntary muscular contractions which accompany the excruciating pain attending even the slightest movements with the bone in its abnormal position. Prolonged or harsh or even mild efforts at reduction without its use are unwarrantable, not only because the coincident muscular spasm render them useless to accomplish any other result than agony to the sufferer, but because such efforts may produce a rent in the fibrous capsule of the bone and joint or increase the size of such opening already made by the accident, thus enhancing the liability to effusion into the

joint or to dangerous inflammation thereof. Furthermore, the patella may be forced into the opening to such a degree, and held by it so firmly as to make the reduction next to impossible, a condition supposed to have been present in reported cases, which have been left unreduced after many efforts to accomplish it had ended in failure.

The patient should be moved carefully, should be cautioned against any movements whatever of the injured limb; the surgeon should avoid handling the limb beyond the touch and glance which makes the diagnosis, until the patient is fully anæsthetized.

The contour of the bony surfaces concerned in the accident, the normal looseness of the soft parts surrounding and attached to the patella, especially in the extended position of the leg, are such as to make it impossible for anything in or about them to become an insurmountable obstacle to reduction; so that I feel justified in saying such difficulties, when present, arise from muscular spasms and the possible changes in the fibrous investments of the bone, perhaps due to the injury—oftener perhaps dependent upon rough and unnecessary manipulations.

ARTICLE VI.

LADY PHYSICIANS.

At the banquet of The Alumni Association of the Women's Medical College, Prof. E. Fletcher Ingals responded to the toast, "*The Profession*," in the following strain, which will represent the status of lady physicians in the West:

Within a few years, there has been a great change in the feeling of the profession toward lady physicians. This is nowhere more clearly shown than by action of different medical societies of this city, of the Illinois State Medical Society, and of the American Medical Association, all of which have admitted ladies to full membership.

This is due in part to the ladies themselves, but also to the institutions from which they are graduated.

A few years ago, women, with the peculiarities of Dr. Mary Walker, were attempting to crowd themselves, not only into the profession of medicine, but into all of the professions and arts, where formerly only men had been employed. This was done at the expense of those traits which have always been considered as the peculiar glory of womanhood; and, as a result, gentlemen in and out of the profession, saw in the effort only a tendency to the degradation of the gentler sex, and many would rather have followed their sisters to the grave, than to have seen them so associated with these strong-minded women. But, the ladies, who are active in the profession and who are now studying, do not countenance these methods, and hence a great change has come; however, much of this change, particularly in the West, is due to the institution in whose honor we are convened here to-night.

However great the objections may be to the study of medicine by ladies in mixed classes, and I, for one, think these objections have not been overrated, there can be no possible objection to its study in institutions like the college you call Alma Mater.

In entering this institution, a lady sacrifices nothing of her delicacy, modesty or self-respect, but takes a position parallel with that of her brother in any of the best colleges of the country.

The profession and the public appreciate this, and gladly extend the hand to the lady physician, which a few years since they would have withheld from the *female doctor*.

I predict, that when the objectionable features, which still remain in our larger hospitals, can be removed; when the fact, which was long ago accepted by the foremost colleges of the country, and which has been recently acted upon by the more advanced Homœopathic colleges—namely, that mixed classes are not good, shall be universally accepted, then the last lingering prejudices will disappear, and, then, ladies will take an equal position with their brothers in the great work of ministering to the sick.

The profession already welcome the graduates of this college, as they do gentlemen from other institutions of high grade; but it is still necessary for a lady physician to tell where she graduated, when she receives an introduction.

It is often urged that lady physicians cannot endure the hardships, which must be borne by general practitioners, and this is probably true, but this is only one of the misfortunes which will render your success the more conspicuous.

However, the profession is broad, and those who find themselves unable to endure the hardships of general practice, may after a few years settle into some of the specialties into which the practice of medicine is divided. But none, I hope, will attempt to practice any of the ordinary specialties, until they have had several years experience in general practice, for without such an experience no one is competent to enter a special field, unless I except two of the specialties which are now taught in this institution.

I refer to Pharmacy and Dentistry. The former is not recognized as a specialty of medicine, but it should be, and there is nothing about it which the competent lady physician cannot attend to.

The latter has but recently been acknowledged as one of the proper specialties of medicine. It opens a large and profitable field for usefulness for any of our graduates, who have not the physical ability to endure general practice, or who prefer to concentrate their work upon a single line, in order that they may do that the better.

In conclusion, placing myself, for the moment, outside of the Faculty and speaking for medical men at large, I welcome the graduates of this college, and of similar institutions, to all the honors and emoluments of the profession.

ARTICLE VII.

SUPPURATIVE OTITIS MEDIA, PYÆMIA. A case occurring in Cook County Hospital, in the service of Dr. Henrotin. Reported for the CHICAGO MEDICAL JOURNAL AND EXAMINER, by Dr. EDWARD PARKER DAVIS.

Cases of this character are sufficiently frequent to be familiar to the practitioner; the fatal termination, in this instance, and

the opportunity for post mortem examination. attach more than usual interest to the present case. The patient, M. C., female, aged 34, a domestic and native of England, was admitted during the month of February, 1883. She complained of pain in her left ear and the left side of her head, face and neck; deglutition was also very painful. She described her illness as having lasted for five days before admission, during which time she had had chills and profuse perspiration, fever and emesis, with sore throat; her illness began with an ear ache on the left side; some years before, she had an abscess or "boil" in the left ear.

On examination, marked and general icterus is observed, tongue coated dark brown; tenderness in the epigastrium; the liver extending an inch lower than normally. The patient's general nutrition was good; her skin dry and hot; pulse 114, temperature 104.

Chills at various intervals followed the patient's admission, the temperature rising to 105; profuse perspiration, dry tongue, emesis and great debility were observed. Subcrepitant râles were heard at the base of the right lung; pain and tenderness in right hypochondrium. From the time of admission, patient had complained of pain in the left ear, a purulent discharge was noticed, the external meatus was swollen, and difficulty was experienced in gaining access to the middle ear.

Antipyretic and supporting treatment was unsuccessful; the ear was cleansed with carbolized solutions and filled with iodoform, but without avail; the patient dying comatose nine days after admission.

Post mortem examination, as follows:

Seventy-two hours after death, rigor mortis absent; surface of body icteric, a greenish discoloration occupied the posterior triangle of the neck, upon the left side.

Thorax, recent adhesions and 5ij of serous fluid in the left pleural cavity. Infarctions in both lungs generally disseminated.

Right heart full of dark clotted blood, heart normal, valves competent, abdominal viscera normal, excepting the left kidney, on which the capsule was adherent. Mucous membrane of the bladder covered with pus. In the cranium, between the dura mater and the bones, was found several ounces of pus in the

posterior fossa; at the base of the petrous bone was a carious sinus leading to the middle ear which was found to be enclosed by carious walls and filled with sanious pus.

The middle ear was lined with pus and its walls were carious. Making its exit at the jugular foramen, pus had followed the carotid sheath, separating the artery and vein, and passing to the clavicle; a pus sheath of thickened tissue was found exterior to the internal jugular vein.

The mastoid cells were carious and infiltrated with pus.

The cerebrum was not abnormal.

The posterior portion of the left lobe of cerebellum was softened and discolored, apparently from the pressure of the subjacent pus.

For the twelve years ending in '76 eighty-nine cases of neglected otorrhœa which resulted in death, serious exfoliation of bone, or necessitated a severe operation, are cited by a single writer on diseases of the ear (Burnett). Observers of the hospital and dispensary cases are familiar with the appearance of the disease at its earlier stages. The case will suggest to the general practitioner, the importance of an early diagnosis before the suppurative process has become chronic; the operating surgeon will be urged to undertake operative procedure that the advantages of of drainage and disinfectants may be secured before intra-cranial perforation has taken place.

COOK COUNTY HOSPITAL.

ARTICLE VIII.

TWO CASES OF STENOSIS UTERI WITH SYMPTOMS OF LOCOMOTOR ATAXY. By O. STROINSKI, M.D.

I. Mrs. M. N., a rather strong woman, fifty-two years of age, was carried to my office with the assistance of two persons. She had always been a healthy person but had borne no children. Three years ago, and one year after the menopause, she noticed rheumatoid pains in the right lower limb, which also attacked the other lower extremity. After a while there was added to

that a sensation of cold and numbness is the same regions ; and she often could not distinguish which was the right and which was the left leg. Then she had a sensation of whirling around when awakening in the morning and when leaving the bed she would be unable to stand upon her feet for a quarter of an hour. Urinary trouble also set in and the sphincter ani gave away temporarily. Later, the pains in the lower extremities increased and they attacked the forearms and the hands. Pains in the groins appeared and the walk was gliding. All the symptoms of locomotor ataxy had now gradually developed, but vision was unimpaired and ophthalmoscopic examination showed the retina to be perfectly normal. The galvanic current acted well on the several affected groups of muscles, and Westphal's knee phenomenon could not be elicited. The latter symptoms, in connection with the healthy and stout appearance of the woman induced me to examine the genital tract. The ovaries were not palpable and the parts adjacent to the uterus showed no irregularities. The cervix uteri was completely occluded by agglutination of the walls of the cervix and it was impossible to enter the cavity with the uterine sound even by increased pressure. I therefore perforated the cervix with a small trocar and after dilating the same with laminaria tents, introduced a common intra-uterine pessary. After six weeks the phenomena of locomotor disturbance began to disappear and micturition was normal. Afterward it was necessary to apply the intra-uterine stem every three or four months, the labia of the cervix inclining to agglutinate again.

II. I was called to see Mrs. Anna W., fifty-three years of age, who had been unable to leave her bed for the last three months. Four years ago and about one year and a half after the menopause, she noticed the same pains as above described, and the course of the disease was similar to that of Mrs. N. But here the sphincter ani was more involved, and she lost all power of motion. There was also constant constipation caused by partial paralysis of the bowels ; and for the last four months she had to make injections with large quantities of water to induce defecation. Anæsthesia was complete in the lower extremities and the galvanic current acted but slowly on the muscles, especially on the gluteus maximus and biceps. The pulse was 50, and the

action of the heart retarded. The sphincter ani could be passed by two fingers without producing any pain, and there was no difficulty in introducing a large sized bougie into the bladder. The cervix was closed as in the first case, and it was treated in the same manner. Improvement was more rapid in this case and the woman was able to do her house work after two months.

These cases are very rare and they are mostly diagnosed as locomotor ataxy, but they are known to exist by every gynaecologist. The pathological condition of these cases has never been examined and it has been hitherto impossible to decide as to the symptoms produced, especially in those cases where the uterus is no longer irritated by the monthly ripening of the ova. It is probable that pressure on the uterine nerves caused by the agglutination of the uterine walls acts reciprocally, on the nervous system of the abdominal part of the body and on that of the spinal cord.

THE BACILLUS OF GLANDERS.

The President of the Imperial Board of Health, Dr. Struck, at Berlin, publishes the results of experiments made on glanders. The material was taken from nodules in the diseased mucous membrane of horses which had died from the disease. Sections of these nodules were colored with a saturated solution of methylene-blue, washed with diluted acetic acid, bathed in alcohol, and then imbedded in cedar oil. There were small bacilli, which were cultivated in horse blood. The products of these cultures, injected hypodermically into several parts of mice, rabbits and guinea-pigs, produced a disease which showed all the symptoms of glanders, such as swelling of the testicles and ovaries, with ulcerative processes in the nasal cavities, and general infection, with final death. Injections with material derived from these animals had also always produced the same results.—*Wiener Med. Wochenschrift*.

College Commencement Exercises.

ARTICLE IX.

RUSH COLLEGE.

The annual commencement exercises, of the forty-first year of this institution, were held in Central Music Hall on the 20th of February, at 2 o'clock P. M.

President Allen, in introducing the exercises of the day, referred to the fact that Rush College, having been chartered by the legislature 1837, was older than any other educational institution in Illinois. This was the close of its fortieth year of college work, and the occasion was signalized by the executive Faculty appearing in the traditional scholars robes of the ancient University of London, which had been adopted as the garb and insignia in which the Faculty would appear on all public occasions of the college.

Rev. Clinton Locke, D.D., offered prayer.

The president conferred the degree of *Doctor of Medicine* on one hundred and seventy-nine (179) gentlemen of the graduating class.

Dr. E. H. Van Patten, of the class, delivered a brief and very able valedictory.

Prof. Moses Gunn, M.D., LL.D., delivered the Doctorate address. (This address is printed in full in this number of the JOURNAL AND EXAMINER, and will be commented on next month.)

A large and cultivated audience was present, including many visiting alumni and many representatives of the local profession.

In the evening, the Faculty entertained the alumni of the college, and other invited guests, at a banquet at the Grand Pacific

Hotel. Over three hundred and fifty partook of the pleasures of an elaborate and comforting menu and of the still more enjoyable feast that followed it.

Prof. H. M. Lyman presided, and grace was said by Rev. T. E. Green.

The toast, "*Our Guests*," was responded to by Prof. J. N. Hyde, who uttered in eloquent words the welcome of the Faculty to the assembled company.

"*The Specialist*," was responded to by Dr. Horace Wardner, superintendent of the Insane Hospital at Anna, in a well-studied effort, which he read from manuscript. It was a masterful exposition of the true relations of the medical specialist, and was most heartily enjoyed by the company.

Gardner G. Willard, Esq., spoke "*As the Lawyers Look at Us*," in a finished and entertaining speech. We never knew before how much the two professions had in common, nor how great a bond of sympathy ought to exist between them.

Rev. Thos. E. Green spoke of "*Our Common Theme*" in a manner so eloquent, and in every way so well, that the company was fairly electrified by the effort.

A solid and much appreciated response to the toast, "*The Consultation*," was made by Dr. S. H. Birney, of Champaign.

Prof. J. Suydam Knox made a response to the sentiment, "*Quacks and Quackery*," which, for humor, fairly entitles him to be regarded as the humorist of the profession. His speech did as much for the digestion of the dinner that had just been eaten as wine could have done, and it was enjoyed much more.

Dr. J. B. Hench, of the class of '83, spoke to the interrogative sentiment, "*What Next?*" in a six minute speech replete with good sense, and set in such chaste English, and delivered with such grace of quiet dignity, as to elicit the plaudits of all present.

President Allen made the last speech of the evening, the sentiment being "*Predicaments*." It was felicitous, as such efforts on his part always are, and was a fitting finale to a galaxy of the most excellent after-dinner speeches that it has been our fortune to hear, on a single occasion, in many years.

Not a little of the enjoyment of the occasion was due to some excellent music rendered by a student and two alumni of this

college, Messrs. Snyder, Davis and Bradley. They rendered a humorous duet, as follows :

A MODERN CONSULTATION.

MUSIC—"Merry Maiden and Tar."—*Pinafore*.

- DOCTOR. You tell me you've an ill-defined sensation.
- PATIENT. Oh wise and learned doctor that you are!
- DOCTOR. Connected with excessive cerebration.
- PATIENT. Oh wonderful diviner that you are!
- BOTH. Oh excessive cerebration;
Oh ill-defined sensation;
Oh wonderful diviner that you are!
- DOCTOR. You're the victim of a mild hallucination,
- PATIENT. You astonish me with such prodigious lore!
- DOCTOR. And you have a growing inco-ordination.
- PATIENT. Well, really, have I any trifle more?
- BOTH. Oh the mild hallucination!
The inco-ordination, the bright irradiation,
Of such scientific lore!
- DOCTOR. The cortex of your frontal convolutions
I will now proceed to thoroughly explore;
And at once I reach intelligent conclusions—
How sad! your days of happiness are o'er.
- BOTH. Those frontal convolutions, intelligent conclusions.
- PATIENT. Oh melancholy tidings!
That my happiness is o'er.
- DOCTOR. You are suffering from the gradual invasion
Of a fatal and insinuating spore,
Whose inevitable, cruel termination,
Is that you will surely come to be a bore.
- PATIENT. Oh, doctor! you alarm me!
How really can it harm me?
And can you not forearm me
Against this deadly spore?
- DOCTOR. You will shortly feel your cranium expanding,
And great will be the size which it attains;
And your knowledge will be ever so commanding
That not a thing unknown to you remains;

In your ear you'll have a flea,
In you bonnet then a bee,
And the "big head" is the title of this malady.

DOCTOR. 'Tis the work of the bacillus cerebrosus.

PATIENT. Why, doctor! seems to me I've heard of that.

DOCTOR. And the way to antisepticize the creature
Is for you to wear a brick within your hat.

BOTH. The bacillus cerebrosus,
Bacillus cerebrosus,
This very night we'll put a brick within our hats!

—DR. E. P. DAVIS.

The Alumni Association of the college held its annual meeting the morning of the 20th.

The committee on Prize Essay reported that two essays had been presented, but that neither was worthy of the prize. The same prize was continued for another year. The Association voted a donation of fifty dollars to the sufferers by the recent disaster to the mine at Braidwood.

The officers elected for the ensuing year were as follows: President, Dr. John Guerin, of Chicago; first vice-president, Dr. T. P. Russell, of Oshkosh; second vice-president, Dr. J. W. Fisher, of Milwaukee; secretary and treasurer, Dr. F. A. Emmons, of Chicago; executive committee, Drs. Maynard, Davis, and Bevan, of Chicago; prize essay committee, Drs. C. E. Parkes, C. T. Fenn, and J. S. Knox.

ARTICLE X.

WOMAN'S MEDICAL COLLEGE.

The thirteenth annual commencement exercises of the Chicago Woman's Medical college were held February 13, at Hershey hall, in the presence of an overflowing house of friends of the young doctors. The exercises began promptly at 8 o'clock with an organ solo by Prof. Falk, succeeded by a short prayer by Rev. Samuel Fallows. Prof. William H. Byford, president of the col-

lege, then, in a few fitting words, presented diplomas and certificates to the following eighteen ladies, graduates of the class of 1883:

Mary Augusta Brown, Sarah Keyport Cummings, A.M., Elizabeth H. Cassell, Fannie Dickinson, Frank A. Groat, Elizabeth Sanders Holton, Laura North Hyde, Rebecca Alice Hartwell, Sophronia McCloud Lane, Virginia Mahoney, Julia Catherine Pepper, Georgia Sackett Ruggles, Charity Ann Saunders, Farima J. Shipp, Alice Summerfield, Avice Elida Smith, Mary A. White, Isabella Smith White, B. S.

The class valedictory address was read by Miss Virginia Mahoney. It was a clear, forcible effort, with but a moderate dash of the sentiment which generally adorns such farewell occasions. Miss Mahony gave a short review of the progress of medicine since the time of Æsculapius to the latter half of the nineteenth century. For the near future she predicted far greater and more brilliant advancement. Attention was called to the fact that the Chicago Woman's Medical college was the first of its kind in the West. The farewell to faculty and to the class was brief but well expressed.

Some of the class will go east, some north, and some as far west as China.

The regular faculty address was pronounced by Prof. Wadsworth as follows:

To provide for bodily comfort, to insure the soul's future happiness, and to attain knowledge are among the greater incentives to worldly industry. Now whatever may be the eccentricities of any one individual in these several directions the general development of the human mind is quite symmetrical. No one goes far ahead of the common understanding and maintains himself systematically. Science is classified knowledge. We can go back to pre-scientific as to pre-historic times when the general attainment of knowledge did not admit of classification in groups as at present, and if we observe the practice of medicine during these periods we shall see that there were few reasons or consistencies; but we have advanced and attained a considerable degree of knowledge in many directions. These remarks are made merely as a prelude to the subject around which our thoughts are to be

gathered for this occasion, namely, the Principles and Practice of Medicine, minus or plus Physiology, and I define physiology as the science of essential organic movements with reference to functions. Æsculapius, the reputed son of Apollo, practiced more in surgery than in medicine, with very little knowledge of either and none whatever of physiology. Hippocrates hypothicated as "humors," blood, phlegm, yellow bile and black bile. He located blood in the heart, phlegm in the head, yellow bile in the liver, and black bile in the spleen and theorized that a surplus or disturbance of these "humors" caused all bodily ills; consequently bleeding and purging were his principal means of cure. Galen was an advocate of Hippocratic views. He believed that inflammation was the result of blood entering new areas of flesh; that when this was uncomplicated, it produced œdematoid disease; when accompanied by phlegm it produced phlegmonoid; by yellow bile erysipelatoid; by black bile schirrous disease, etc.

Upon these vague hypotheses he subjected his patients to the most rigorous confinement in heated and unventilated rooms to *sweat out* the offending humors. We need not discard him. He was wise for his time but he had not the slightest knowledge of physiological processes. In the sixteenth century Paracelsus, a person of some acquirement of chemical knowledge, and who first introduced chemical remedies into medicines, declared that the human body was composed of mercury, sulphur and salt, and that in these substances all bodily disease had its origin. Mercury, as a volatile substance, gave rise to frenzy, madness, delerium etc.; sulphur produced fever, phlegmons, jaundice, etc.; while salts generated colic, stone gravel, gout and sciatica. His principal remedy was antimony, the physiological action of which he never even surmised.

The seventeenth century seems to be the earliest period in which observers contributed substantial material for a basis for physiological medicine. Harvey discovered the circulation of the blood, Malpighi extended his observations microscopically, and Bartholin, Steno, Wharton, Sylvius, Willis, Spigelius, Glisson, Peyer, De Graaf, Schneider and others did valuable service to science. During this period, however, medical practice was

carried on upon the wildest hypotheses, and for the most part enshrouded in overpowering superstition. Nature had no province whatever. Sick bodies were cured by means as extrinsic and mysterious as those which saved souls, and the incentive to independent inquiry by the few was held in check by the unreasoning ignorance of the many.

Pertinent to this subject the introduction at this time of inductive philosophy by Bacon aided greatly in preparing the general mind for the investigations and conclusions necessary to rational medicine. Early in the eighteenth century Stahl propounded the doctrine that the rational soul of man governs the whole bodily economy. That what we term the *vis medicatrix naturæ* was in reality the soul making resistance to bodily disturbances. Upon this hypothesis was based strenuous opposition to "strong medicine," and vigorous measures in treatment were decried by all adherents to the new doctrine. Antimony, opium, Peruvian bark, bleeding, purging, emetics etc., were discarded generally and expectation and timidity became characteristic. Immediately following the introduction of these views homœopathy with its *similia similibus curantur* and minimum dose list was introduced. The classic 10 and 10 divided into unthinkable attenuations making less disturbance in the body enhanced its favor with the soul and therethrough wrought wonderful cures minus physiological considerations.

During this century Haller discovered the property of the irritability in muscles and nerves, which gave a nucleus for new speculation and disjointed theories. Applied pathologically, disease was accounted to consist of spasm or debility. Every body sick was either sthenic or asthenic and therefore must be bled or stimulated. From this time on discoveries on physiological anatomy were frequent and important, but not until the beginning of the nineteenth century was there any one to conceive the idea of association in the theory and treatment of disease. Every theory based upon isolated facts or observation was run to its extreme, and the utmost confusion and contradiction of statement obtained. And who wonders? At present we have attained a much greater degree of physiological knowledge. Neither the investigations nor their achievements need be enumerated here.

Every medicine necessary to use has its physiological and therapeutical effect outlined, and none should be administered without an understanding of what is to be expected therefrom. And yet it must be said physiological considerations do not enter into the general practice of medicine as a ruling factor. The science, in its relation to principle and practice, is neither sufficiently taught nor comprehended, and the common people have not the slightest conception of such an idea. It is hardly an exaggeration to say that a thousand barrels of stuff in the form of patent medicine are swallowed annually by the people of Chicago at their own option, or on the advice of some friend. It was, in ancient times, the custom to expose the sick in public places and allow passers by to prescribe for them. The custom is modified but not much abated, and physicians are pestered by ignorant interference with their best remedial plans. As a matter of course legal medicine is not much in advance of common appreciation. In this State a person can legally practice medicine who has practiced ten years without medical education. One of these legalized doctors after attending a case of *dyssentery* (as he pronounced it) for two days, without a cure, prescribed peppermint water as his ultimatum of physiological medicine. Now should an intelligent M. D. enter protest against this doctor's practice he would be adjudged as jealous of his peer (legally), and the ignoramus would find plenty to support him.

The progress of medical science must, to a certain extent, be subservient to the common intelligence; but its advancement, nevertheless, must be achieved by persistent systematic research. Many suppose that medical sects, by rivalry, promote the interests of medicine; that homœopathy has modified regular medicine, abated bleeding, purging and heroic doses, and that eclectic-ism has abated the use of calomel. They have not, any more than the fly upon the wheel hub has turned the wheel, or the moonlight musings of lovesick boys and girls have advanced the science of astronomy. Sects are the incidents of an imperfect conception or the perversion of fundamental principles. Great advancements are continually being made independent of them and in spite of them, and they are left behind with their own littleness.

The principles and practice of medicine *plus* physiology should

be comprehended generally by practitioners, for the unphysiological practice of medicine is too nearly related to quackery, and in these days there should be no excuse for differences in this respect. Member of this class, remember thy physiology in the days of thy youth that thy patients may live long in the land.

The music of the evening was furnished by the Chicago female quartette. The floral presents made to the eighteen graduating young ladies were very numerous and beautiful.

ARTICLE XI.

COLLEGE OF PHYSICIANS AND SURGEONS.

The first annual commencement of the College of Physicians and Surgeons of Chicago was held in the afternoon, at Central Music Hall. The attendance was quite large, and the exercises proved interesting. A fine orchestra was present and furnished some excellent music. Considering the fact that the college has completed only its first season, the number of graduates—fifty-two—speaks well for the estimation in which the Faculty is held. The members of the Faculty were all seated upon the stage, and are as follows: Profs. Bockius, Jelks, Hoadley, French, Harlan, McCoy, Silon, Gibson, MacWilliams, John, Harper, Angear, Carpenter, King, Holroyd, Waxham, Earle, Kea, Curtis, Palmer, St. John, Steele, Jackson and Powers. The exercises were opened with prayer by the Rev. Dr. Abbot E. Kittredge, of the Third Presbyterian church. After the prayer, Dr. D. A. K. Steele, secretary of the college, presented the first annual report. The college has been in existence less than two years, but during that short time it has made an enviable reputation. The first steps toward founding the college were taken by Prof. Earle, who spoke of the matter to Dr. A. Reeves Jackson. A preliminary meeting of the founders was held at the Grand Pacific hotel, May 4, 1881, and on July 2 letters of incorporation were obtained. The final certificate of incorporation was received Oct. 14, 1881, and in September of the next year the college was opened to students, and the first lecture course began in one of the finest

and best appointed medical college buildings in the West. The session just closed was attended by 165 students, 52 of whom graduated yesterday.

When the secretary had finished reading his report, Dr. Jackson, President of the college, presented the diplomas, the graduates walking upon the stage in sections and receiving their passports into the field of medicine. In presenting the diplomas, Dr. Jackson said: "By virtue of the authority vested in me by the board of trustees of the College of Physicians and Surgeons of Chicago, I confer upon each of you the degree of Doctor of Medicine. I present this diploma in testimony of your conduct in having obeyed the rules and regulations of the college."

The graduates resumed their seats, and Dr. Jackson, addressing them feelingly, said:

"GENTLEMEN: You are the first-born of our house, and we feel the same interest in you that parents do in their first children. We have to-day publicly acknowledged you as our offspring, and we hope you will prove worthy of your parentage. This diploma is presented as a badge of your ancestry, and we trust you will never do aught to lessen the confidence we have placed in you. May God bless you in whatever you do for the right."

A number of the students were then made the recipients of floral remembrances from their lady friends. The orchestra rendered selections from the "Mascotte" and the class valedictorian, Dr. Orin P. Maxson, M.D., L.L.B., of Waukegan, was then introduced. Dr. Maxson delivered an eloquent farewell to his fellow-students and the Faculty, and paid a high tribute to the profession he now enters upon. He gave a synoptical history of medicine from the days of Hippocrates to the time when it attained rank as a science.

The Faculty address was delivered by Prof. A. M. Carpenter. It was a lengthy tribute to medicine, and replete with suggestions to those who were about to enter upon its practice. He urged the graduates to be careful of their professional deportment, and to so labor in the interests of the healing art as to cover themselves with renown, and reflect credit upon their Alma Mater.

The Hutton prize of \$20 in gold for the best examination upon

mental and nervous diseases was awarded to Theodore Henry Spencer, of Belmont, Ont.

A banquet was given by the college in the evening at the Sherman House. Some two hundred were present, composed of the members of the Faculty, graduates, and friends of the college. A band of music was stationed in the corridor at the entrance to the dining-room, and while the feast was enjoyed some very pleasant music was listened to. The tables were decked with flowers in great profusion, and three hours or more were spent in listening to addresses, recitations, and after-dinner speeches appropriate to the occasion. It was near midnight when the festivities were over.

AN ACCOUNT OF TWO HUNDRED AND EIGHT CONSECUTIVE
CASES OF ABDOMINAL SECTION PERFORMED BETWEEN
MARCH 1ST, AND DECEMBER 31st, 1881.

Mr. Lawson Tait, F. R. S. C., Eng., surgeon to the Birmingham and Midland Hospital for Women, in a paper bearing this title, gives the following analysis of the series:—Exploratory incisions, 13 cases, with no deaths; Incomplete operations, 8 cases, with four deaths. Operations for Cystoma: One Ovary, 36 cases; Both Ovaries, 28; Parovarian Cysts, 12; Hydrosalpinx, 16; Pysalpinx, 20; or 112 cases, 3 deaths. Removal of Uterine Appendages: for Myoma, 26 cases; for chronic Ovaritis, 12; for Menstrual Epilepsy, 1; or 39 cases, 5 deaths. Hepatotomy for Hydatids, 2 cases; Hydatids of Peritoneum, 2; Cholecystotomy for Gallstone, 2; Radical of Hernia, 1; Nephrotomy for Hydatids, 1; Nephrectomy, 1; Intestinal Obstruction, 1; Solid Tumors of Ovary, 3; Hysterectomy for Myoma, 10; Cysts of unknown origin, 1; Tumors of Omentum, 1; Pelvic Abscess opened and drained, 7; Chronic Peritonitis, 4; or 35 cases, 4 deaths. Total, 208 cases, with 16 deaths. These operations were not performed under carbolic spray.—*British Medical Journal*.

Domestic Correspondence.

ARTICLE XII.

EDITOR OF CHICAGO MEDICAL JOURNAL AND EXAMINER:

I have no doubt that the medical profession is somewhat tired of the subject of medical ethics. But the discussion continues, and recently the *N. Y. Medical Journal* has opened its columns to a series of articles pro and con. Perhaps I may be excused, therefore, for saying something of the matter now. The disinterested observer, who visits New York, would have to question many physicians before he found one who felt any particular interest in the present ethical fight. At the best attended meeting, called to vote upon the subject, only about one-fourth of the members of the County Society and perhaps one-tenth of the regular profession of the city was present. The general feeling is, that the real importance of the question has been exaggerated by outside agencies for an advertising purpose; and that medical practice here, as everywhere, goes on with very little reference to disciplinary codes. This view is strengthened by the fact that no case of discipline for consulting with irregulars has occurred in fifteen years in this city, or, I believe, in the State. It is somewhat curious that before the new code instances of sinful consultation by certain eminent physicians were well known to occur, and that some, to whom the practice was most ascribed, are now vigorously championing the old code.

It is a mistake to think that there is any especial antagonism among the physicians of the city. I do not think that many favor the present code as a whole, but only the now restrictive clause in it. The majority prefer, I should say, the declaratory resolutions or Genterman's code. Many others would like the

old code minus the restriction clause, and a little refurbished in other respects.

It is idle to expect that New York will ever return to the old code in its entirety, however. It would require a two-thirds vote to do it, and at the last meeting of the State Society, despite most laborious canvassing, there was not even a majority. The meeting was a full one, and each side did its best to bring out all its friends. The battle was fairly fought with no parliamentary tricks or political manipulation. The vote represented the general feeling in the State. This is shown by the canvas made by Dr. Smith, the secretary of the society. Among nearly 700 answers to his query as to which side the individuals took upon the matter of the code, there were about 340 in favor and not quite 300 against the present code. About one-third of the profession of the State live in New York, and less than one-third of the answers came from this city, the "ayes" and "noes" being about 80 to 120, as I remember the figures. So that the returns represent the feeling in the country, as well as city.

The statement is made that of the 59 county societies, only 6 have taken action in favor of the present code, while 36 have taken action against it. It should be borne in mind, however, that the six include New York county, Albany county and King's county, and that their representation is 47 out of the total of 123 county delegates. Assuming that the 17 counties which took no action had but one delegate, there would still be considerably over one-half of the county representation which took no action against the code. I have assumed that King's county is favorable to non-restriction, because I understand and believe that the vote rescinding instructions to delegates really represented the feeling of the majority of Brooklyn practitioners.

Perhaps one reason why the State of New York sustained its last year's action, is to be found in the character of the criticisms made upon it. Here are some examples :

"It disturbed 'a custom approved and sanctified by wisdom and experience of ages.'"

"A disgraceful act."

"In the interest of specialists."

"It (the Code) does not exclude the licensed cancer quack, midwife or chiropodist."

"Fifty doctors, reckless of honor, and greedy for gold, undertook to sell out the profession."

"A complete surrender to homœopathy."

"It (the code) asserts the propriety of consulting with homœopathists."

"Most unwise, ill-timed and injurious * * * untenable in every respect and not sustained by the action of any other respectable body in Europe or America."

"An unwise and useless code—a code which sacrifices the self-respect and honor of the members of a once honorable profession in order to pander to the interests of a few specialists."

"Hurried through by a small majority."

"A significant fact that the new code agitation was entirely inaugurated by specialists, and that every man who has taken at all an active part in securing its adoption and preventing its repeal is a specialist."

It has been keenly felt that these charges are, every one of them, untrue and unjust. Their constant iteration has, no doubt, made converts to the other side. For this reason, also, many in the city who did not entirely approve of the new code, felt gratified after all that it was sustained.

The charge against the specialists is made each time with as much triumph as if the authors had achieved an intellectual victory and satisfactorily solved the whole problem of ethics. But I think all candid men will agree that this is a side issue; that the question is really as to the right and advisability of allowing individual freedom in professional conduct, just as is allowed to members of all other professions and pursuits.

At any rate, in the State Society, it was not a question between specialists and general practitioners, for among the 105 votes for the new code, I can count only 16 specialists. In this city the proportion of specialists among the anti-code men is relatively considerable. The Southern and Western gentlemen who say such severe things against the honesty of New York physicians, are probably ignorant of the methods in which specialists here do their work. This is chiefly done in the office, and the general

practitioner does not bring his patients, but sends them. The patient is examined and prescribed for independently of his own physician.

I do not write to defend our specialists, however, who can, no doubt, take care of themselves; but only for fair treatment towards them and towards the profession of New York. It seems to me that there is no call for so much violent feeling and vituperative language. The profession is not going to be destroyed or disintegrated, as has been intimated. I do not think that we are victims of moral decay. I find it perfectly safe to mingle freely with my neighbors. The view in this city, I think, is, that by removing a restriction that had been a dead letter, we have placed ourselves in a better light before the world; have removed an affront and a stimulus to homœopathic progress, and have only set aside a technical morality which infringed on the individual's rights without elevating him in return. We believe that the true work for professional elevation lies in securing a higher educational standard, better trained minds, a more scientific spirit, and a greater technical skill in our midst. We believe that this work can be better done without the embarrassment and reproach caused by the restrictive code. We believe that skilled and learned physicians, obedient to the laws of God and the dictates of common morality are what the profession needs.

Why cannot the profession at large admit that we too in New York may, perhaps, be honest and earnest in our views. And is it not barely possible that the American Medical Association has been a little hasty in cutting off from its membership a State like New York, because of an honest disagreement in by-laws?

The Cartwright lectures, recently delivered by your townsman, Dr. W. T. Belfield, have excited much interest, and have been very well received. Dr. Belfield has done good service in showing that there is a genuine basis to the new bacterial pathology, and that micro-organisms cannot be dismissed, as is so often done, with a contemptuous reference to German theories.

The Post-Graduate School and the New York Polyclinic have both done very well during the past season, and both have secured unquestioned success. With the benefits of a year's experience, no doubt there will be still further improvements in the future.

Our didactic colleges are beginning to be aroused to the fact that these post-graduate institutions mean something.

We are to have a new morgue, at an expense of \$50,000. The present morgue is a mere shed, where bodies are piled away in coffins, awaiting inspection and identification, and mortuary ceremonies. There is a room with marble tables, separated from a passage-way by a glass partition, like that of the Paris morgue. The exposure of bodies here, however, drew so many persons, that it is not now used. There were 6000 corpses received at the morgue yearly, of whom about 160 were unidentified.

The hospital Saturday and Sunday collections fell off somewhat this year. The collection in 1881 was \$42,000. In 1882-3 it was not quite \$40,000. The reason, it is said, is that the churches were not attacked in the right way, that there was too much Episcopalianism in the committee, and too much reliance upon violent advertising in the paper. The plan is a good one, however, and it will doubtless be more successful next year. The Catholics here refuse to join the movement.

The profession has sustained a great loss in the sudden death of Dr. Beard. He was a tireless worker, and one of the most agreeable, witty and original of men. He left two works in manuscript, which will shortly be published. One was entitled "Medical Education," the other "Sexual and Other Varieties of Neurasthenia." The manuscripts were left by him in charge of Dr. Charles L. Dana, who will edit them.

One of the new, but most useful organizations in the city is the Charity Organization Society. One hundred and eight religious and charitable agencies are now making regular exchanges through it. The number of cases reported to the society up to December 1 was 37,937, while 4,557 notices concerning cases of duplicate relief have been sent to parties interested. There has been established a Bureau of Fraudulent Cases, and blanks have been sent to charitable institutions to be filled out with names of begging letter-writers, professional mendicants, hospital-rounders, and other impostors upon the charitable public.

Two of the colleges have just held their commencements. The University graduated a class of 164; Bellevue, a class of 166. It is said that both colleges are somewhat more rigid in examin-

ations than formerly, and both, no doubt, do as much as is possible for a student in two six-month courses. The College of Physicians and Surgeons continues to be successful in sustaining its longer term.

The subject of *convallaria maialis* has been much talked of in medical societies of late. On the whole, the conclusion is being reached that it is less valuable than *digitalis*. It seems to be especially efficacious in relieving dyspnœa, due to emphysema or a weakened heart. In a case of this kind of my own, its effects were good, but very temporary.

Efforts are being made to obtain a law taking the power of licensing away from the colleges and giving it to a State Board of Examiners. The plan was endorsed by the State Society, and it is said to have a good chance of being carried out. The colleges of this city do not oppose it, at least two of them do not. The law, if enacted, will also modify and improve somewhat the registration law. This latter has worked well in New York City, but it has been a dead letter, so far as the prosecution of those fraudulently registering is concerned, in other parts of the State. It is claimed that medical law-making has been a failure, but though there have been mistakes, the charge, as a whole, is hardly true. It is believed that by suitable laws we can secure a system of licensing and registering which will exclude quacks and greatly elevate the general status of the doctors throughout the State.

M. S.

NEW YORK, March 20, 1883.

MORTALITY, CHICAGO, MONTH OF FEBRUARY, 1883. —Dr. DeWolf, Health Commissioner, reports during February a total mortality of 859. This is 119 less than that for February of 1882. Pneumonia is the first disease in number of deaths (87); infantile convulsions (80) is next; phthisis pulmonalis (79) next; diphtheria (34) next; murder, two; manslaughter, two.

Society Reports.

ARTICLE XIII.

THE TRI-STATE MEDICAL SOCIETY.

One of the most important medical events of the year will be the meeting of the Tri-State Medical Society, at Indianapolis, in September. Already the work for this convention is far advanced, owing to the almost perfect organization of the society.

Some years ago the society found that the hospitality of the citizens, in the places of meeting, to some extent interfered with its proper work, and that long papers crowded out shorter and better ones. It was then resolved that the society accept of no banquets, etc., and that all papers be limited to twenty-five minutes.

From that time the increase in interest and attendance was marked, and now, during each of the three days of the meeting, three sessions are held, fully occupied with short, practical papers and discussions, the authors having been previously selected by the committee on programme.

The "Tri-State" is in exact harmony with the different State and other local societies, leaving to them all matters of legislation and ethics, and requiring that its members be also members in good standing of one or more of these.

The territory embraced is Indiana, Kentucky and Illinois, to which Cincinnati and St. Louis have been added. At the last meeting there were many visitors from other States.

The "Tri-State" holds front rank in reputation, in both Europe and America, as a working society, and work has been the secret of its success.

For further information, address any of the officers : Dr. Wm. Porter, St. Louis, president ; Dr. G. W. Burton, Mitchell, Ind., secretary ; Dr. F. W. Beard, Vincennes, Ind., treasurer ; Dr. T. B. Harvey, Indianapolis, chairman of committee of arrangements ; Dr. J. L. Thompson, Indianapolis, chairman of committee on programme.

Respectfully,

G. W. BURTON, *Sec'y.*

ARTICLE XIV.

REPORT OF MEETING CHICAGO PATHOLOGICAL SOCIETY.

March 12, 1883. Society called to order by the president, Dr. Lyman.

The minutes of the last meeting were read and approved.

The following named gentlemen were elected to membership : Drs. J. J. M. Angear, C. A. Bucher, A. B. Bausman.

Dr. G. M. Hammond was proposed for membership by Drs. Bennett and Lyman, and Dr. J. M. Patton by Drs. Webster and Tebbetts.

Dr. A. Lagorio read a paper entitled "The Hypodermatic Treatment of Syphilis," which was discussed by the society.

Dr. G. Frank Lydston next read a paper entitled "The Treatment of Bubo," which was also discussed by the society.

The essayists were requested, by the president, to offer their papers for publication in some journal.

Present, Drs. Newton, Taggart, Lyons, Hanson, Angear, Haight, Bennett, Lagorio, Lyman, Hammond, Lydston, Camp, Dobbin, Campbell, Tebbetts, and three visitors.

The society, on motion, adjourned.

I. H. TEBBETTS, *Secretary.*

PROF. DANFORTH'S clinic at St. Luke's Hospital, Thursdays, is at 1.30 P. M.

Reviews and Book Notices.

ARTICLE XV.—PHYSICAL EXPLORATION OF THE LUNGS BY MEANS OF AUSCULTATION AND PERCUSSION. Three Lectures by AUSTIN FLINT, M.D., Delivered before the Philadelphia County Medical Society.

This is a reprint in book form of these lectures, which were delivered by the well-known teacher and author at the invitation of the Philadelphia County Medical Society. The lectures have recently appeared in one of the Eastern journals. Although to many the subject is old, there is still a large portion of the medical profession who are not entirely conversant with the subject of physical diagnosis, and to them these lectures cannot fail to be of much interest. Compliments are unnecessary when this author's name is found.

E. F. I.

BOOKS AND PAMPHLETS RECEIVED.

BOOKS.

Quain's Anatomy. Ninth Edition, 2 Vols. N. Y., Wm. Wood & Co. Chicago, W. T. Keener.

Manual of Histology. Satterthwaite. Second Edition. N. Y., Wm. Wood & Co. Chicago, W. T. Keener.

Diseases of the Prostate. Thompson. Phila., P. Blakiston, Son & Co. Chicago, W. T. Keener.

Vision, its Optical Defects. Fenner. Second Edition. Phila., P. Blakiston, Son & Co. Chicago, W. T. Keener.

Manual of Gynæcology. Hart and Barbour. N. Y., Wm. Wood & Co., Med. Lib. Chicago, W. T. Keener.

- The Untoward Effects of Drugs. Lewin. Detroit, G. S. Davis.
- Experimental Pharmacology. L. Hermann Zurich. Lea's Son & Co. Chicago, Jansen, McClurg & Co.
- Nerve Prostration and Hysteria. W. S. Playfair, London. Phila., Lea's Son & Co. Chicago, Jansen, McClurg & Co.
- Physical Exploration of the Lungs. Flint. Phila., H. C. Lea's Son & Co. Jansen, McClurg & Co.
- Chronic Bronchitis. Bartholow. W. T. Keener.
- The Uterus, Ovaries and Fallopian Tubes. Courty. N. Y., Blakiston, Son & Co. W. T. Keener.

PAMPHLETS.

- Modified Listerism in Ovariectomy. Edw. W. Jenks.
- A Large Fibro-Cyst of the Uterus and Ovarian Cystoma, with Pregnancy. Operation. Recovery. Walter Coles.
- Remarks on 177 Operations for Entropium and Trichiasis. F. C. Hotz.
- Transactions State Medical Society of Arkansas. 1882.
- Contributions from the Chemical Laboratory of the University of Michigan. Prescott & Vaughan.
- The Treatment of Acute Eczema. Geo. H. Rohe.
- Bacteria and their Presence in Syphilitic Secretions. R. H. Morrison.
- Percentage of College-bred Men in the Medical Profession. Chas. McIntire.
- The Clinical Diagnosis of Bright's Disease. C. W. Purdy.
- Annual Report Marine Hospital Service. 1882.
- Traumatic Tetanus. Recovery under Quinine and Alcohol. Sphæro-Bacteria Present in the Blood. D. R. Brower.
- Micro-Organisms in the Blood of Tetanus. Lester Curtis.
- Preliminary Report on the Yellow Fever Epidemic of 1882 in the State of Texas. Treasury Department.
- On the Question of Hypertrophy of the Osseous Structure of the Turbinate Bones. D. Bryson Delavan.
- Bromide of Ethyl. Julian J. Chisolm.
- Announcement Toledo Medical College. 1883.
- What Shall We Do for the Drunkard? Orpheus Everts.
- Annual Address before the American Academy of Medicine, Philadelphia. Triall Green.
- Uterine Massage. A. Reeves Jackson.
- Tracheotomy in Illinois. H. Z. Gill.

Treatment of Puerperal Septicæmia by Intra-Uterine Injections. Edw. Jenks. 1880.

Best Methods of Treating Operative Wounds. Henry O. Marcy.

Deflection of the Septum Narium. E. Fletcher Ingals.

Obstructions in the Larynx and Trachea. E. Fletcher Ingals.

Announcement Cooper Medical College, San Francisco. Session 1883.

Announcement of Spring Course, College of Physicians and Surgeons. 1883.

Management of Chronic Inebriates. Albert N. Blodgett.

Transactions of the American Dermatological Association. 1882. Arthur Van Harlingen, Secretary.

A Simple Suction Drainage Tube for Suppurating Pleural Cavities. Edmund Andrews.

On Prehistoric Trephining and Historic Amulets. Robert Fletcher.

Contribution to Surgical Gynæcology. Edw. W. Jenks.

Present Status of Antiseptic Surgery. R. Park.

Stricture of the Rectum Treated by Electrolysis. R. Newman.

Medical Communications of the Massachusetts Medical Society. Vol. XIII, No. 1. 1882.

Analysis of Eight Thousand Cases of Skin Disease. L. D. Bulkley.

Naso-Antral Catarrh and Its Treatment. W. N. Daly.

Transactions Medical Society of West Virginia. Fourteenth and Fifteenth Annual Sessions. 1881 and 1882.

Address in Surgery, Excisions of Portions of the Alimentary Canal Covered by Peritoneum. W. A. Byrd.

Life of John M. Briggs. W. K. Bowling.

Early Diagnosis of Chronic Bright's Disease. T. A. McBride.

Placental Delivery in Mammals. Henry O. Marcy.

Addresses on the Dedication of Cooper Medical College Building. By Levi C. Lane and Edw. R. Taylor.

Fifty-seventh Annual Report of the Massachusetts Charitable Eye and Ear Infirmary. 1882.

Investigation into the Parasites in the Pork Supply of Montreal. Osler and Clement.

Value of Graduated Pressure in Diseases of the Vagina, Uterus, Ovaries and Other Appendages. Nathau Bozeman.

Laryngeal Hæmorrhage. J. Bettman.

Amnesic Aphasia. E. Wyllys Andrews.

Second Annual Report of the Astronomer of Yale College Observatory.
1882.

The Yellow Oxide of Mercury. W. W. Seeley.

Summary of Monthly Medical Reports Southern Illinois Penitentiary. H.
Z. Gill.

The Differential Diagnosis of the Cause of Sudden Unconsciousness. R.
O. Beard.

Glycosuria. O. C. DeWolf.

Some Points on the Administration of Anæsthetics. Geo. H. Rohe.

First Biennial Report of the Michigan Free Eye and Ear Infirmary. 1882.

The Growth of Children. Geo. W. Peckham.

Transactions of the Michigan State Medical Society. 1882.

The City of Mobile as a Winter Resort. W. H. Anderson.

The Antiseptic Treatment of Wounds. W. T. Briggs.

Restraint and Seclusion in American Institutions for the Insane. H. M.
Bannister and H. N. Moyer.

Elephantiasis Arabum in the Samoan Islands. A. C. Heffinger.

Meteorology and Rainfall. J. F. Bateman.

Remarks on Climate in Relation to Organic Nature. Surgeon-General C.
A. Gordon, M.D., C.B.

The Malignity of Syphilis. L. D. Bulkley.

THE TREATMENT OF HYDROPS WITH BLATTA ORIENTALIS.

In the Medical Society of St. Petersburg, Dr. Bogomslow reported his experience with this drug in cases of hydrops. The latter was produced by disease of the heart in fifteen cases; by diseases of the kidney fifty-two times, and in three persons by degeneration of the liver. In twenty-nine cases the remedy was given as a powder, and as a tincture in the others. Profuse sweating was produced in nineteen cases, while in sixty-one there was increased urination, and in thirteen diarrhœa was provoked.
—*St. Petersburg Med. Wochenschrift.*

Translations from Foreign Exchanges.

BY O. STROINSKI, M.D., CHICAGO.

OSSIFICATION OF THE CHOROID.

The changes of tissue in the middle eye have been well studied but the changes in the choroid have not been fully described. Ossification of the choroid has been thought to be a result of changes in the vitreous lamella or in the capillaries of the former. Dr. Hoene of Warsaw, has examined two eyes enucleated by Dr. Galezowski, at Paris. One eye was affected with irido-choroiditis from traumatic influence. The middle of the eye-globe showed an osseous zone adherent to the sclerotic at the point of entrance of the optic nerve. In the anterior parts the sclera as well as the choroid could be easily detached from the osseous zone. The choroid which has a light appearance was more adherent to the sclera than to the osseous zone by the ciliary nerves which were well preserved. It was but at the divergence of the optic nerve that the two members were united so intimately to the osseous tissue that it was difficult to separate them. The ciliary body was absolutely free, and had no connection with the osseous tissue. The iris was free on its anterior aspect, but on its posterior surface was attached to the capsule of the lens. The lens was attached to the choroid by connective tissue which was easily detached with scissors. The same tissue was found in the middle of the choroid. The latter had a rough surface and showed on its aspect an osseous tissue. It could be divided into two layers, the posterior of which was hard and showed under the microscope the appearance of osseous tissue, the anterior part of the chorodea having a tissue of blackish color which could be easily removed

with scissors. The different parts of the sclera and choroidea were examined under the microscope, the decalcification of the osseous tissue having been effected by a saturated solution of picric acid. Dissection of the sclera proved the fibrous tissue to be normal, but on the attachment to the optic nerve the fibrous tissue showed an intra-cellular infiltration and was evidently enlarged as it approached the choroid.

The adjacent choroid had not the elements constituting the normal tunica vascularis, but was entirely occupied by the new tissue. The large fibers composing the vitreous lamella were hypertrophied as also those of the amorphous tissue and of the small vessels. This tissue was colored by picrocarmine. The histological construction of the choroid differed essentially in its different parts. The ciliary body and the next attached parts of the choroid were not much altered here but the posterior parts showed great modifications. The alterations of the anterior parts were an hypertrophy of the walls of the blood-vessels with enlargement of the caliber. The cells contained less pigment but they were of normal size. The posterior parts of the choroid had no pigment and were changed to an amorphous mass with fine fibers containing small cells. Neither the chorio-capillaris nor the vitreous lamella could be distinguished, new tissue having taken its place. The vessels in this part were hypertrophied and showed cellular infiltration of the walls. This infiltration progressed forward, and the whole choroidea formed a fine layer intensely pigmented and surrounded by an embryonal layer which replaced the other layers of the choroid. The dissection in the osseous ring showed this to be a true osseous formation in form of osseous blades which united by prolongations and which had a meridional direction. Each blade was composed of osseous lamellæ which formed a circle around a central orifice, the canal of Harvey. The osseous corpuscles were disseminated between the singular lamellæ. Between the osseous blades was a connective tissue which formed by its fibers a small vessel. In the anterior parts the lamellous structure was less distinct. Between the small osseous blades there was a fibrous tissue with curved fibers which contained the same connective tissue interspersed with

amorphous and fatty masses. The choroid was but slightly attached to the osseous tissue. In the posterior parts, the osseous blades were deposited in embryonal tissue and connected with it by fibrillar prolongations. The nervous elements of the retina were lost and instead was found connective tissue with very fine fibers and globules. The corpus vitreum was changed to a layer of fine fibrillæ connected with the remnant of the retina. The osseous tissue was also dispersed to the inner side and the osseous blades transgressed freely the connective tissue.

The second eye-ball had been subjected to Critchett's operation, but, while the symptoms of sympathetic ophthalmia had attacked the other eye it had been enucleated. The ball had been preserved for ten months in alcohol and presented the form of a nut with flattening on the anterior surface traversed horizontally in the middle of the ball by a cicatrix which was the result of the operation. The margins of the cicatrix adhered to the contents of the globe. Beneath these adhesions, the sclera was easily detached on one side of the entrance of the optic nerve, on the other, on the macula. On the sclera was seen a very fine internal membrane containing pigment easily detached. This membrane was apparently the atrophied choroid and the ciliary body was hardly distinguishable. The iris was very transparent but intact. There were but traces of the lens as a natural cause of the operation. By slight traction the optic nerve was easily detached except on the macula lutea, which was whitish yellow in color and of osseous consistence. As to the formation of osseous tissue there are two different formations, one of connective changing directly into osseous tissue, the other by metamorphosis of cartilage by infiltration of cellular tissue with lime salts (metaplastic) which latter did not show the osseous blades of metaplastic formation. While the osseous tissue in these cases had a perfect lamellar structure it was the fibrillar tissue originating from embryonal tissue which formed the osseous tissue. It is therefore the opinion of the author, that the osseous tissue of the choroidea originates from embryonal tissue reproduced by excessive exudation from the choroid and which produces a new formation of the original tissue.—*Recueil d' Ophthalmologie.*

ON STRICTURES IN THE UPPER AERIAL DUCT CAUSED BY SCARS.

In Volkmann's *Sammlung Klinischer Beiträge*, Dr. Jacobson publishes his experience with these strictures. They are caused mostly by traumatic influence. Syphilis is the source of a good many; and the author gives the autopsy of a woman, where the stricture was found in the fourth tracheal ring. Of infectious diseases causing strictures, typhoid fever, small-pox, diphtheria and glanders are named. There is stenosis of the upper part from its non-use, in persons who have undergone tracheotomy. Congenital stenosis is interesting from an anatomical standpoint. There are stenoses from granulations produced by ulcerative processes in the trachea, on the margin of ulcers. Stenoses may be provoked by defects and loss of substance, with consecutive reparation by scar tissue and shrinking, by thickening of the submucosa and of the perichondrium, caused by long-continued and deeply situated inflammation, in fractures and luxations by dislocations of the cartilages and their segments, by ankylosis of the joints of the ring and ary-cartilage, and by partial or total extirpation of the vocal cords. The cartilages being intact, there is but a slight narrowing, but otherwise these are the most indurated and narrowed strictures. Beneath the stricture the aërial duct is often dilated, with emphysema of the lungs. The strictures are single or multiple. They are membranous, ring-like, cylindrical or funnel-shaped. A slight stricture often gives no symptoms. Troubles in respiration are often more dependent upon such complications as swelling, accumulation of mucus, etc., than upon the degree of constriction. The first symptom of a stricture is very often a sudden attack of severe dyspnœa. In other cases, the trouble in respiration begins slowly, and that especially after traveling or long speeches. Respiration becomes gradually more difficult, and there are heard, even at a long distance, certain laryngo-tracheal noises. Here local pain is frequent, with croup and dysphagia, and the voice is more or less changed, according to the seat of the stricture. The diagnosis has to be made *by palpation of the larynx and trachea*, the laryngoscope being often of no use whatever. The seat of the stricture is of the greatest importance for the treatment of the case. After

infectious diseases, the larynx is especially affected; in syphilis the stricture is mostly above the ring cartilage, and strictures of traumatic origin are found in the upper part of the throat. Strictures of the larynx change the voice considerably, and this is often noticed before the impeded respiration. Dysphagia, cough, and local pain are frequent. The trouble in respiration increases rapidly, and the larynx makes forced motions down to the jugulum and back. If the patient has undergone tracheotomy, the larynx has to be examined by a fenestrated canule, or by bougies or sounds. In strictures of the trachea or of the bronchi, the voice is clear, but weak; trouble in respiration increases gradually; stenosis of a main bronchus causes abolition of the respiratory murmur in the respiratory lung. The deeper the seat of the stricture, the more unfavorable the final result. The caliber and condition of the walls are of the greatest importance in the treatment.—*Correspond. Blatt f. Schweizer Aertze.*

A CASE OF LARGE ABSCESS IN THE BRAIN.

The patient was a girl of seven years, and had suffered for two years from pains in the left temple, with caries of the squamous portion of the left temporal bone, and an aperture as large as a five-cent piece, but she had always been of an amiable character and fair intelligence. The opening was treated with iodoform. Afterward severe headache, with increased pulse, followed, and a high temperature, with vertigo, insomnia, and psychical excitability, with clonic contraction of the muscles. But she retained her consciousness, and even amidst the most severe pains in the head, she welcomed her relatives with joy. The diagnosis was acute meningitis, with diffusion of the inflammatory process. The treatment was without success. Epileptiform attacks, mydriasis, paralysis of the right extremities, and partial paralysis of the left side, with coma, followed. To relieve the pressure on the left cerebral hemisphere, a trepan was applied on the squamous portion of the left temporal bone, and 250 grms. of a dense pus withdrawn. A drainage tube was inserted, and a solution of phenic acid injected. In the afternoon, the girl was found sitting on her bed, without any symptoms of coma or paralysis. But the mydriasis continued, and the pulse became weak. On the

next day an epileptiform attack set in, and vomiting followed. The flow of pus decreasing, a larger drainage tube was inserted, and the sac washed out. After two weeks aphasia followed, with slight paresis on the left side. After another week, hæmorrhage from the temporal aperture appeared, which was followed by general paralysis, coma and death. The autopsy showed, beside the large opening in the squamous portion of the temporal bone, adhesions of the meninges with the cranium, and a large aperture of the brain down to the inferior convolutions, and communicating with the left lateral ventricle. Complete softening of the cerebral cortex extended from the orbital portion to the frontal lobes, and from the superior parietal convolutions and the superior parietal sulcus to the left, and further from the margin of the ascendant parietal convolution to the right side. The brain itself formed a generally disorganized mass. The retained consciousness, and the continued use of language in a lesion of such extent, form a curious part of the case.—*Gazetta medica Italiana*.

THE SUBSEROUS FIBROID OF THE UTERUS.

In performing laparotomy for fibroma of the uterus, there has been made no differentiation as to whether the tumor was subserous, with a pedicle, or if it was intramural. This differentiation is at the present time of more importance than the question as to amputation in the body or cervix uteri. Theoretically, the removal of a subserous pedunculated tumor seems to be easier than the removal of an intramural tumor, but the mortality has been equal but for a short time. At present, the extirpation of pedunculated subserous tumors offers no difficulty, and only the pedicle remaining gives rise to complications. The symptoms of these tumors are very different; subserous tumors causing no hæmorrhages, while in submucous and intramural tumors the hæmorrhages are the main symptom. As mechanical results, there are flexions of the uterus, with pressure on the neighboring parts. They are especially serious in intramural tumors. The special kind of pain characterizes the region of development. In interstitial tumors, there is a pain of pulling down at the time of the menses; in submucous, there are labor-pains; in subserous, peritoneal pains. Ascites is frequent in submucous and interstitial

fibroids as a cause of anæmia, produced by severe hæmorrhages; in subserous, by injury of the peritoneum. Peritonitis is frequent in the latter. A large-sized tumor provokes dyspnœa; of rarer occurrence are eclampsia, hæmato-hydro- and pyo-metra. Sterility is frequent in submucous and interstitial, rare in subserous tumors. The indications for laparotomy are, 1, in interstitial tumors, severe hæmorrhage; severe symptoms of pressure on adjacent parts, and dyspnœa of high degree. 2, in pedunculated subserous fibroids, severe pains; ascites; peritonitis; sterility; labor pains by pressure in dyspnœa. The prognosis in pedunculated subserous fibroids is favorable. The author, Dr. Boener, gives twelve cases, all of which recovered. Operations of a former date were unfavorable. The treatment of the pedicle is of great importance. Sometimes the adhesions connecting the uterus with the abdominal walls rupture suddenly, and these cases are favorable.—*Correspondenz Blatt f. Schweizer Aertze.*

SYPHILIS OF THE SPINAL CORD.

The anatomical changes of syphilis in the spinal cord are similar to those of the brain, but there has never been mentioned an anatomical change in the blood-vessels of the cord. The following case shows some interesting points in this respect. The patient was a woman forty-three years of age, who had always been healthy till her marriage. The husband had at the time of the marriage an ulcer on the genitals, and the woman had suffered from several abortions, with profuse hæmorrhage. During the last two years she became absent-minded, and her spirits were very low. This condition alternated with excessive excitement, which developed to mania errabunda. She died suddenly in collapse. The dura mater of the brain was thickened and turbid on the pons varolii, and this extended to the sulcus longitudinalis. There were adhesions between the dura and the brain substance. The arteries of the base of the brain, and especially the two arteries of the fossa Sylvii and the branches of the circulus arteriosus of Willis showed nodular concretions. The brain substance was generally anæmic, and on the corpus striatum there was a soft black spot. The cervical part of the spinal cord was hard. The inner aspect of the great arteries and veins showed

microscopically a syphilitic degeneration. There were concretions in the walls of the vessels which diminished the caliber of the vessels in their diameter, and which occluded the lumen of the vessel to complete obstruction. The process of inflammation with exudation could be easily traced in every vessel. The obliterating process had been provoked by the pia mater, grossly infected with the syphilitic virus, and propagating itself in the veins and arteries in a special manner. There existed, besides the syphilitic lesion of the brain and the spinal cord, a chronic interstitial nephritis and osteosclerosis of the left caput femoris. — *Gazetta medica Italiana*.

SURGERY À LA WAGNER.

Many musicians cannot comprehend the musical works written by Richard Wagner, and for many surgeons outside the German empire, the tasks undertaken by the surgeons of this enlightened country are difficult to understand. There was a virgin of twenty-seven summers, somewhat retarded in physical development from want of food and other necessities of life. This rather squat-figured lady came under the treatment of a quack, while suffering from irregularities in her monthly periods, who finished his abominable treatment by producing a prolapsus uteri et vaginæ. The lady went here and there to get relief from the swinging burden, but without avail. She then came into the hands of Dr. Kuhne, who found a common prolapsus, even without any dislocation on the part of the rectum or bladder. He tried some pessaries, but not being satisfied with their behavior, he performed episiorraphy. But even through the occluded vulva the vagina and uterus were seen dangling, much to the chagrin of the doctor. What now? he asked, and he extirpated both ovaries, the fallopian tubes, and a part of the fundus uteri, which latter he affixed to the abdominal walls with fine sutures, after having it covered well with the parietal peritoneum. This somewhat dangerous operation had the astonishing result that the prolapsus was seen dangling again in its old place, much to the chagrin of the doctor. He now became very angry, and he performed episiorraphy a second time, with apparently satisfac-

tory results, and we have not heard of further operations on the prolapsus of the short-figured maiden.—*L'Union médicale*.

SYPHILIS AND DEMENTIA PARALYTICA.

Tabes dorsalis and syphilis are in intimate connection; or rather, as recently proved, there are many cases of locomotor ataxy originating from syphilis. The relation between syphilis and dementia paralytica has not been sufficiently demonstrated. Dr. Oberstine has made examinations upon this point, and he found among 1,000 insane persons (660 males and 340 females), 175 affected with dementia paralytica. Syphilis was found among the whole number 73 times. Paralysis and syphilis were observed in the same person 37 times, *i. e.*, 21.6 per cent. of male persons affected with paralysis had been syphilitic, and in 51.4 per cent. of syphilitic persons progressive paralysis ensued. Of all the other 825 patients, but 35 (4.1 per cent.) were affected with syphilis. The number of patients suffering from syphilis and dementia paralytica was, therefore, five times greater than that of other insane persons suffering from syphilis. The time of syphilitic infection and of the developing dementia varied from six to seven years. Dementia paralytica is often regarded as a chronic periencephalitis, followed by sclerosis and atrophy of the dura mater, without its further consequences. The syphilitic appearances of the brain are, 1, a localized; 2, a more diffuse form. The former is characterized by the appearance of tumors; the latter affects those parts supplied abundantly with blood-vessels, as the dura mater and pia mater. The antisymphilitic treatment of these insane patients has always been followed by rapid improvement.—*Monatschrift f. pract. Dermatol.*

TETANUS IN LYING-IN WOMEN.

K. H., twenty-three years of age, entered the lying-in hospital at Vienna, and was there delivered by craniotomy. On the third day the pulse was 86; temp. 88; tongue dry and red, and cheeks feverish. Patient complained of weakness. A short time after, the first attack set in. On the upper extremities the thumbs were in adduction, and grasped in the palm of the hand; the other

fingers only flexed in the metacarpo-phalangeal joints. The fore-arms were semi-flexed, the hands slightly curved at the wrist, the upper arms adducted. Active and passive motion were impeded by contraction of the muscles. The lower extremities were flexed at the hips and knee-joints, the upper limbs adducted, the muscles of the calf contracted. Any attempt to extend the lower extremities was accompanied by severe pains. By compression of the large blood-vessels of the extremities, the phenomena above described could be easily produced, and on irritation of the nervus facialis by palpating the same, the whole group of the facial muscles was contracted. Bromide of potassium and hypodermic injections of morphine easily relieved the patient. This disease, which is called tetania by Trousseau, has been lately observed quite often. Contractions of the muscles of the trunk have also been seen in these cases. The attacks are repeated in different intervals, and it seems that after a long protracted confinement, the attacks are more severe, and they last longer. The disease is not followed by death or severe consequences.—*Wiener Med. Wochenschrift*.

CANCER OF THE UMBILICUS.

N. W., fifty years of age, entered the hospital October 15, 1880. He complained of excruciating pains in the region of the umbilicus. In the month of November, of the same year, he had zoster in the course of the nervus obturatorius. The patient became emaciated. In the region of the umbilicus there was a tumor of the diameter of two cm. It was of a bluish color, and a little ulcer there separated a serous fluid. The tumor was hard, and the induration around the tumor extended to two cm. in the circumference of the umbilical cicatrix. The diagnosis was cancer of the umbilicus, and the tumor was extirpated antiseptically, the abdominal wall healing per primam. The patient died from cancer of the rectum one year afterward. Under the microscope, the tumor had all the characteristic forms of a cancer. It was covered by a cutis which showed certain tuberos elevations, similar to those of papilloma. The superficial layer was formed by a stroma of connective tissue, with numerous spaces of different form. The connective tissue was of the alveolar structure, and

among the alveoli were interspersed epithelial cells. In the middle part of the tumor, the epithelial cells were more frequent and larger (giant-cells). In the inferior part there were numerous vessels with transverse nuclei. There were also numerous cylindrical epithelial cells.—*Giornale internazionale delle scienze mediche*.

A CASE OF POISONING BY STRYCHNINE TREATED WITH CHLORAL HYDRATE. RECOVERY.

The patient, a girl twenty-three years of age, had taken forty centigram. of strychnine with suicidal intent. An emetic had been given an hour and a half after taking the strychnine, and tannic acid in large doses had also been employed, without relieving the convulsions. The girl had first clonic convulsions, which were followed by tetanus. Forty convulsions had been counted in three hours. Five hours afterward there was complete opisthotonos, with pleurosthotonos, followed by tetanic spasm. An hypodermic injection of .001 pilocarpine was made, and was followed by profuse salivation and perspiration. Chloral hydrate, 12 grms., was administered by the mouth, and as the convulsions did not cease, .030 chloral hydrate was injected hypodermically every half hour. Three hours afterward, another injection of .001 pilocarpine was applied. The body was sometimes in a state of complete rigidity, and the pulse changed from 90 to 120. The lower limbs were in perfect extension, and flexion was impossible. The convulsions stopped twenty-four hours after taking the strychnine, but they reappeared at intervals. Chloral hydrate was applied for the next twenty-four hours, and the doses given amounted to over 100 grm., mostly injected subcutaneously.—*Archives générales de médecine*.

SYPHILIS OF THE PHARYNX.

The patient, a woman thirty-two years of age, lost her appetite and became emaciated after the birth of her first child. She went to Esplugo de Francoli to use the iron baths, and afterward was treated by hydrotherapeutics, but without result. The mucous membrane of the gums and of the conjunctiva became pale, and

there was general atrophy of the muscular system. A slight fever, with night sweats and a high pulse, followed, and difficulty in swallowing was noticed. The symptoms indicated general progressive anæmia. The gums and the tonsils were free from any affection, and only on the posterior part of the pharynx a circular spot was visible, of the size of a dime. It looked like the product of a chronic catarrh. The superficial layer of this spot having been removed by a brush, its true character was easily detected. There was hyperæmia of the mucosa of the larynx, which extended into the Eustachian tube, with diminished hearing and pains. There was profound perturbation of nutrition, but no visible symptoms of general syphilis. Mercury and iodide of potassium effected a speedy cure. The case is remarkable, in that a single spot on the pharynx, without other symptoms of syphilis, reduced the patient to a mere skeleton.—*La Independencia medica Barcelona.*

ANATOMICAL CHANGES IN THE BRAIN IN INFECTIOUS DISEASES.

The tunica interna of the cortical layer shows here a granular fatty deposit, and tumefaction of the endothelial cells. In some cases of typhoid fever and septicæmia, there are colloid spots in the adjacent parts of the vessels. The gangliar cells are entirely changed in the layer of the large cells. In examining the dissections from the periphery to the inner parts, there is found tumefaction of the protoplasm. The pyramidal cells become round or irregular. The fatty granular degeneration is differently developed. In the most advanced stage of degeneration, there are found large nuclei in the intercellular spaces, surrounded by granular protoplasm. In minute examination, some nervous elements are to be found degenerated, and it is probable that gangliar elements have been multiplied by direct division of the nuclei. The anatomical changes in the medulla oblongata are constant. From all the nuclei of nervous origin, and especially those of the pneumogastric nerve, originate normal multipolar cells, round, oval and irregular, also with turbid protoplasm, and there is sometimes a distinct nucleus with a short prolongation. Most cells are smaller than usual. Parenchymatous alterations are also found in the brain.—*Gazetta medica Italiana.*

A CASE OF NON-TUBERCULAR BASILAR MENINGITIS.

A girl, seven years of age, complained of headache and general tremor of the body. Temp. 39.8 R.; pulse 100. Sensorium free; headache most intense on motion of the body. Pupils dilated, reacting well; spleen enlarged; constipation; respiratory organs normal. On the 11th of April, strabismus convergens, with small pupils; facial paresis of the left side; pulse regular; sensorium free. Four days afterward, pupils dilated; abdomen retracted; pulse irregular, with repeated vomiting, and strabismus. At four o'clock in the afternoon, very restless; unconscious; frequent vomiting. On the 26th, complete abolition of consciousness; very much emaciated; splenic tremor persistent. On the 30th, difficulty in swallowing, and death. The course of the disease was fifty-four days, with irregular fever. The autopsy showed basilar meningitis, with internal hydrocephalus and softening of the ventricle. The pia mater was intact; no tubercles found. The diagnosis first indicated tubercular meningitis, but soon the course of the disease proved the case to be of non-tuberculous character.—*Gazetta medica Italiana*.

PARALYSIS FROM HYPODERMIC INJECTIONS OF ETHER.

A. B., twenty-one years of age, had varioloid, and two injections of ether were made on the posterior region of the left forearm (what for?) The next day she complained of severe pains at the point of injection, and three fingers of the left hand lost the power of motion. The pain continued for a week, and also the paralysis of the fingers. The left hand lay in semipronation, the index finger but slightly flexed, while the thumb and middle finger were thrown entirely into the palm of the hand, the other fingers being normal. The flexion of the forearm was perfect, and in this movement there could be felt a contraction of the supinator longus muscle. The electrical exploration showed not the slightest contraction of the extensor communis and abductor of the thumb. Sensibility was intact. The left forearm measured one cm. less than the right arm. Continued applications of the galvanic current relieved the suffering girl —*Archives générales de médecine*.

AN ADENOID TUMOR OF THE HARD PALATE EXTIRPATED WITH LOWERING OF THE HEAD.

The patient, twenty-four years of age, was the wife of a teacher, who noticed four years ago a small growth on the right side of the palate. At present there was seen a round tumor, of the size of a walnut, reaching forward to the first grinder. There was a transverse scar, resulting from a former incision. At this part the tumor was soft, but at the base of the tumor there was a hard shell, which terminated on both sides with a sharp point. The patient was operated upon with downward hanging head, and the bleeding was so profuse as to protract the otherwise easily performed operation. The hard palate was scraped out with a sharp spoon. Dr. Weinlechner, who performed the operation, has seen *profuse hæmorrhage in all operations with lowered head*. The tumor was an adenoma, with elements of carcinoma. —*Med. Chirurg. Centralblatt*.

RETENTION OF THE PLACENTA FOR TWO YEARS.

Dr. Raugé reported this case in the Société Médicale de l'Aix. The woman was thirty years of age; primipara, and had an abortion in the second or third month of pregnancy, but no physician attended. Severe hæmorrhage persisted for months. For the period of one year afterward the woman suffered from intense pains in the abdomen, and this was accompanied by profuse leucorrhœa. She then suffered from diarrhœa and dysentery. Nineteen months after the first symptoms, the doctor was called, and found the woman in labor-pains. Two hours later, an entirely putrefied placenta was expelled, and a part of the umbilical cord was yet attached to it. Metritis followed, with hæmorrhages which continued for a year. The woman asserts that she never had any connection with her husband from the first attack, and the doctor believes the placenta to be nearly two years old. (What a placenta and what a cord! —TR.) —*Lyon Médicale*.

OBITUARY.—Dr. D. O. Farrand, an eminent surgeon of Detroit, Michigan, died of congestive apoplexy March 18, 1883, aged forty-five.

Selections.

MODIFIED LISTERISM IN OVARIOTOMY, WITH A REPORT OF FIVE RECENT OPERATIONS. By EDWARD W. JENKS, M.D., Chicago, Illinois.

At the meeting of the Illinois State Medical Society, held in May last, I read a paper in which were embodied my own views regarding Listerism in ovariectomy.

Since the above mentioned paper was written, I have had opportunities of carrying out in practice in several cases, the views I expressed, but as the transactions of the society * are seen only by a limited number, I offer no apology for repeating in substance some of the expressions there made use of.

The readers of this journal are all, doubtless, familiar with the discussions which have taken place in various parts of the civilized world in regard to Listerism in ovariectomy.

It is well known that Keith has ceased to rely on it as he formerly did—having virtually discarded it. At the Clinical Society of London, Lister said but a few months ago, in commenting on a death from carbolic acid, that it is too powerful to safely apply in delicate subjects. This topic was discussed at the last International Medical Congress held in London, where it was expected that Lister would speak in its defense, but he remained silent. Keith there stated that he had discontinued Listerism in his ovariectomy operations. The subject was also discussed by many distinguished operators, including some of our own countrymen. In this country there is an unsettled belief regarding its utility,

* The transactions for 1882 are about ready for distribution. I have this week (Nov. 25, 1882), in reading the proof of my paper, added a foot-note referring to these five cases of ovariectomy.

and while there are some gynæcologists who still adhere to pure Listerism in their ovariectomies, there can be no question that the number is less than it was two years ago.

I am convinced, as stated in the paper first referred to, that I have seen two fatal cases of ovariectomy in consequence of the use of carbolic acid spray, and hence am led to believe that a carbolized solution or spray of sufficient strength to destroy bacteria, is an unsafe agent to come in contact with the peritoneum.*

While it is apparent that the adherents of pure Listerism in ovariectomy are gradually diminishing in number, there is no mistaking the fact that since Lister promulgated his theories regarding antiseptics, and carried them into practice, the mortality in ovariectomy has been greatly diminished. While the percentage of recoveries following ovariectomy has been greater since Lister introduced his system, there is one thing pertaining to it that is not so certain, namely: that it has been wholly due to carbolic acid. The profession has been taught by means of Listerism that one of the greatest aids to recovery from surgical operations is perfect cleanliness. All honor, then, I say, to the name of Lister, to whom not the profession only is indebted, but the whole world. Notwithstanding many distinguished surgeons have expressed themselves in strong language against pure Listerism in ovariectomy, all seem to agree that the originator is entitled to our lasting gratitude.

Without quoting from, or even attempting to name the long list of those who have thus expressed themselves, I will merely add for myself that instead of wholly renouncing Listerism in ovariectomy, I am a warm advocate of what may be termed a modified Listerism. The modified form is characterized chiefly by careful attention to perfect cleanliness. The spray can be used in the room prior to the operation, but is not deemed of paramount importance during the exposure of the peritoneum to the atmosphere. Carbolic acid on every instrument, suture, dressing and appliance used, is of less importance than that they should be perfectly clean.

* I am assured by those who have experimented in the matter, that a ten per cent. solution of carbolic acid is the weakest that can be relied on to destroy bacteria, and such a solution will be disastrous in its effect if applied to the peritoneum.

In my own practice, it is possible that I have gone further than many others in regard to carbolic acid, as I consider it such an irritant that I make it a rule to carefully exclude it from contact with the peritoneum. The fluid for the atomizer, if carbolized in the least, I do not have contain over two per cent. of the acid.

The atomizer is, without doubt, of great benefit, if for no other purpose than to render the atmosphere of the operating room in a more favorable condition for exposing the peritoneum, and for this purpose pure water or a two per cent. solution of carbolic acid will suffice.

I can better illustrate the modified Listerism I have used in my ovariectomies, by referring to recent operations—five in number. Of these five, one was unsuccessful. At least three of these may be classed as complicated, and hence, serious cases. For the sake of brevity many matters not pertinent to the subject will be omitted, but there will be given an account in outline of the steps of each operation, and afterwards a summary of the treatment, etc., used in the whole number.

CASE I.—Mrs. M., æt. 36, of N., Mich., when she entered the hospital the last of April, stated that she had been tapped twice, but was unable to say how much fluid had been drawn off at either time. She was then suffering considerable pain through the abdomen, with daily rigors and fever, which I thought might be of malarial character.

I aspirated the tumor for the purpose of examining its contents microscopically. The fluid was found, by my friend Dr. Mercer, to contain fully fifty per cent. of pus.

This being the second suppurating cyst I had ever met with, and having been led by past experience to believe that delay would not lessen the constitutional symptoms, I decided to operate as soon as possible.

Preparatory treatment for a week consisted of daily warm baths followed by inunction and full doses of quinia and iron. The night before I operated, her temperature was 102°.

The morning of the operation ten grains of quinine were administered per rectum. The room was thoroughly filled by the carbolized vapor (two per cent.) by means of an atomizer. Every attention was paid to cleanliness. The ligatures were not carbo-

lized, but clean and well waxed. The spray, during the operation, was not directed toward the patient's abdomen, but, more from oversight than any other reason, was in operation in one corner of the room. The anterior portion of the tumor was so firmly adherent that to detach it was a long and tedious process; there were but few other adhesions and they were easily detached. The pedicle was secured by means of waxed silk, cut short and dropped back. The abdomen was not closed until there was a certainty of the cavity having been thoroughly sponged out and that there were no bleeding points. The tumor was multilocular and was estimated to weigh over thirty pounds. The wound was closed with silver sutures and dressed antiseptically.

This patient made a rapid recovery. Whenever any rise in temperature occurred, from ten to fifteen grains of quinine were administered, either hypodermically or per rectum. At no period of her convalescence did she experience so much discomfort as during the night previous to the operation.

CASE II.—Mrs. O., æt. 50 years, was sent to me by Dr. Muth, of Sheboygan, Wis. This patient was put on the same preparatory treatment as in the preceding case, and on the day of the operation, April 22d, 1882, ten grains of quinine were administered per rectum. The operation was made in the presence of about twenty-five physicians. The room was carbolyzed by the atomizer, the solution, however, containing only two per cent. of carbolic acid.

There were no particular complications, except adhesions to the omentum, requiring ligation and cutting away of one-fourth of it. No carbolic acid was allowed to enter the peritoneal cavity, nor were the ligatures carbolyzed, but perfect cleanliness was aimed at. The assistants were each required to wash their hands thoroughly with soap and water by means of a nail brush. The abdomen of the patient was also washed with soap and water, and wiped dry prior to making an incision. The pedicle was ligated with silk, both ends cut short and dropped into the abdomen. Especial pains was taken in sponging out the cavity, that not a drop of blood should be left.

The tumor weighed thirty-nine pounds. Silver wire was used to close the abdominal incision, over which were placed the usual antiseptic dressings, held in place by a flannel bandage.

The after treatment consisted of sufficient morphia to control pain. The temperature was kept down by quinia. During the first week all nourishment was given per rectum.

CASE III. Mrs. B., æt. 29, of H., Mo., was referred to me by Dr. West, now a resident of Monroe, Mich. She had been seen by a number of physicians of repute, and by some of them the case was not considered a favorable one for operation, as the tumor was believed to be extensively adherent.

The usual treatment, as in preceding cases, was prescribed for a week prior to operating. The patient was placed in a private house, temporarily fitted up as a private hospital. I operated May 18th, assisted by Drs. West, Newman, of Chicago, Mitchell, of Iowa, McLean, of Tilsonburg, Ontario, and others. The condition of every instrument and appliance that might possibly be required was made as clean as possible. The spray, with a two per cent. solution of carbolic acid, was used in the room for an hour previous to operation, so that the atmosphere of the room was very humid and of high temperature.

The adhesions were extensive and in every direction, the tumor being adherent to the abdominal walls over nearly its entire anterior surface, to the uterus, bladder, intestines and liver.

The detachment from the liver required the most careful manipulation, but fortunately it was done without injury to that viscus. The pedicle was ligated and other procedures in the operation done as already described. Several bleeding points were secured by silk ligatures and oozing surfaces treated by hot water; but one bleeding locality could not be secured by either of these methods; that was from the abdominal wall near the liver, where the tumor had been firmly adherent. This bleeding surface, of an area as large as the palm of the hand, to which ligatures could not be applied, and hot water would not check, I finally controlled by passing a needle armed with a strong silk ligature from the outside into the abdominal cavity across the oozing surface described, then bringing the needle outside, and by means of a ligature, tying in a fold this portion of the abdominal wall. The bleeding was effectually stopped, and at the end of twelve hours the ligature was removed without doing harm, but good, instead. This patient made a speedy recovery. The

carefully kept record shows that several times when there was a rise in the temperature, quinia in ten-grain doses caused it to descend to the normal point.

CASE IV.—Mrs. S., æt. 38, of G., Ill. This patient was not seen by me until I was called to her residence by telegraph to perform ovariectomy, June 25th. The patient seemed in good condition, and everything looked favorable for her recovery. The usual steps in the operation, as already described, were taken, except that no spray was used. I have never taken more pains to see that everything used about the patient was in a state of perfect cleanliness. The instruments were washed in carbolyzed water, and after the operation, antiseptic dressings were applied. The tumor weighed about fourteen pounds, and had no adhesions except some slight ones in front.

The weather was exceedingly hot, and at the moment when I was about to secure the pedicle there came one of the most terrific thunder storms I have ever witnessed. The room became so dark that lamps were necessary to even see the patient, and in such a dim light as can be better imagined than described, the operation was completed.

She rallied well, and when I left her, eighteen hours after the operation, seemed in a fair way to recover, yet I could but feel apprehensive as to the result, unless there should be a change in the weather.

Unfortunately the change did not come until too late to be of service in this case. The thermometer ranging from 90° to 95° F., with frequent thunder storms continued for several days. This was at the time when all through the west there were cyclones, tornadoes, and thunder storms of daily occurrence. The patient died the third day after the operation, and from all I can learn, I can but believe that the result was attributable to the condition of the atmosphere.

CASE V.—Mrs. H., æt. 52, of Oconto, Wis., first consulted me March 2, 1882, bringing a letter from her physician, Dr. O'Keef, of the same place.

The tumor was then quite small and the patient had such a dread of an operation that I advised her to return home, at the same time saying that in all probability ovariectomy would be

necessary some time. After a time I was telegraphed for, to come to her residence and remove the tumor. On my arrival (May 27th) I found her in a very feeble condition, with the abdomen greatly distended. She was so feeble that an examination caused syncope, and hence the operation of extirpation of the tumor was indefinitely postponed. But there was so much œdema of the lower limbs, and dyspnœa, that it was decided to risk tapping the cyst. I had no aspirator, nor could one be obtained before my return home. I accordingly tapped with a small trocar and drew off twenty-six pounds of fluid. This was much better borne than we expected. She began at once to improve in strength, and in a few days was about the house.

Six weeks later, Dr. O'K. again tapped the tumor, and drew off nearly as much fluid as in the first instance. It was not believed by either Dr. O'K. or myself that the operation of extirpation would ever be performed, and so what was done was considered as merely palliative. I was accordingly greatly surprised to receive a message to come to Oconto and remove the tumor, which was accomplished August 16th. The weather being cool, the room was heated with a stove and then filled with warm vapor by means of the atomizer and so kept during the operation; this I consider fortunate in view of the fact that the peritoneum was exposed to the air an unusually long time.

Believing the bladder to be adherent, I made the exploratory incision a little below the umbilicus, and even then barely escaped wounding the bladder, as its adhesion to the tumor had caused it to be thus elevated.

The adhesions in this case surpassed any I ever encountered before in number and extent. The tumor was adherent to the abdominal wall, the bladder, uterus, mesentery, intestines* and omentum.

The detachment of adhesions required a long time, the most difficult ones being the intestinal and mesenteric. Owing to so many adhesions there was persistent bleeding from many points. To these, ligatures were applied in greater number than I ever used or witnessed before.

*The adhesions to the intestines were quite similar to a case described in the *British Medical Journal*, Oct. 28, 1892.

There were upwards of thirty, including those used on the pedicle, of which none were carbolized, but all had been in boiling water, speedily dried and then waxed. We ceased counting the ligatures after thirty had been used.

The tumor weight thirty-five pounds. After closure of the abdominal incisions the usual antiseptic dressings were applied. I remained with the patient the day following the operation, after which she was left in charge of Dr. O'Keef, of whom I cannot speak in excessive praise.*

This seemed to be one of those cases where a drainage tube was demanded owing to the great number of adhesions, yet as every point seemed to be secure, and the cavity so thoroughly wiped out, it was thought best not to insert one.

The patient was fed and stimulated almost wholly by rectum for fourteen days. I felt greatly encouraged about her recovery, owing to the fact that twelve hours after the operation there was a passage of intestinal flatus. This is an invaluable prognostic sign following the operation.

August 28, I received a telegram from Dr. O'K. stating that the patient showed signs of septicæmia. I replied that if the symptoms did not very soon yield to quinine and stimulants, he had better open the wound and wash out the abdominal cavity. He prepared to do so, but soon after the treatment was instituted she began to improve and without further drawback gradually recovered.

Successful ovariectomies are now so common that the reports of ordinary cases possess no particular interest for the profession, hence I have aimed in the foregoing brief record to mention only what may be termed the most important points. I have stated that I avoided the admission of carbolic acid to the peritoneal cavity, and yet had a carbolized spray in the room. It is true that in this way some of the carbolic acid may enter the peritoneal cavity, but it is in so small an amount as to differ altogether from the playing of a spray directly towards the abdomen of the patient.

*It is quite important that I should also refer to the preparatory treatment in this case. This had been carried out by Dr. O'Keef in accordance with the plan recommended in this paper for several weeks preceding the operation; consequently she was in much better condition than at my previous visit.

Of the foregoing cases all were treated antiseptically, yet not after the method of Lister. Although the spray was used its chief advantage was in rendering the atmosphere humid, as, being only a two per cent. solution, it could not destroy bacteria.

When I have used the ordinary solution by the atomizer, my own hands have been rendered almost useless by the continuous action on them of the carbolic acid, and the peritoneum of the patient whitened by it. It looks reasonable, then, that so delicate a membrane as the peritoneum must be seriously damaged by carbolic acid when a five per cent. solution produces such effects. There may be advantages, even in a weak solution, of which we have no knowledge, and therefore regret that I did not use it in the fatal case, yet do not believe in this instance it would have caused any other result.

I can see no objection in using a five per cent. solution in the room prior to an operation. It may even be well to have a stronger solution atomized on the persons of the assistants and spectators, or even the surgeon himself if there is reason for thinking they may be media for conveying infection ; but I must continue to enter my protest against full Listerism on account of the poisonous effects of a strong solution of carbolic acid on peritoneum, and I believe that while we may carbolize the room and spectators prior to operating, we should carefully exclude carbolic acid from the peritoneum, whether by spray, instrument, sutures, sponges, or the hands. Cleanliness is of greater importance than carbolic acid.

I had written the foregoing, when it occurred to my mind to refer to the paper written by my friend, Dr. Englemann, of St. Louis, entitled "Difficulties of Ovariectomy," and published in the *American Journal of Medical Science*, for April, 1882, which I read at the time of its appearance, but had not since seen. The paper is an admirable and instructive one, and I heartily endorse its teachings. It concludes with some "points" which he urges on his readers, from which I select the following as pertinent to my subject: "Avoid routine Listerism, and especially the carbolic acid spray over the hands of the operator and into the abdominal cavity." "Cleanliness, not carbolic acid, is necessary." "Keep sponges clean and warm, but not carbolized." "Ligatures,

sutures and instruments should be clean but not carbolized."

In connection with the subject of Listerism, there is another material besides carbolic acid for which in the outset great things were claimed, viz.: catgut, as a material for ligatures and sutures. My own views regarding this material in obstetrical and gynecological surgery have been heretofore expressed in several papers. A translation of one which was written for a foreign journal* was published in the *News* in 1878. In that paper I gave reasons sustained by facts showing that catgut possessed no advantages in the peritoneal cavity over silk, but on the contrary had been in many instances a positive damage. While catgut may be serviceable in general surgery as in stumps after amputation, and in other parts of the body, it should not be used in ovariectomy, as the tying of a knot securely is not only difficult but the material, being apt to stretch on account of the moisture of the peritoneal cavity, is rendered worthless. Further I have observed in post mortem examinations, where catgut had been previously used in the peritoneal cavity, that it is not less innocuous than silk. I am therefore led to the firm belief that there is no better material for ligatures or sutures than clean non-carbolized silk.

There are many other matters of interest relating to the preparatory and after-treatment of ovariectomy patients, the consideration of which must be omitted from this paper as they do not strictly come within its scope. There are some points, however, bearing upon the prophylaxis of septicæmia (doubtless the most frequent cause of death following the operation) to which brief allusions will be made. I heard not long since a gentleman of repute as a surgeon gynecologist say in quite a boastful manner, "I never give a dose of medicine to my patients until symptoms clearly demand a remedy—nothing to prevent disease—not even a dose of quinine in my ovariectomy cases to prevent septicæmia or for any other reason. When there are symptoms of septicæmia, then I give it." Is there not danger of carrying our contempt for drugs too far in these days when "dosing" is so vigorously assailed? As I consider the prophylaxis of disease one of the most important functions of the medical pro-

* *Archives de Tocologie*, 1878, p. 103 "Sur les sutures de l'utérus dans l'opération Césarienne, par Dr. E. W. Jenks."

fession, I differ most decidedly from my friend just quoted. The majority of ovariologists are aiming to prevent septicæmia when they prescribe baths, inunctions, tonics, and other remedies in preparatory treatment. As quinia is considered the remedy *par excellence* in the treatment of septicæmia, why not administer it as a preventive? In all of my ovariectomies for the past three years, when I have had control of the preparatory treatment, I have given quinia freely for the week preceding the operation, and ten or fifteen grains within an hour of beginning it.

Further, when after the operation there has been a rise of temperature, I have administered quinia either hypodermically or per rectum, with markedly good results, being guided in the amount and frequency by its effect. For hypodermic use, the bisulphate is preferable, on account of its ready solubility in water, and consequently lesser liability of causing abscesses.

To attain success in the greatest number of cases (without taking into consideration the selection of patients), operations should not be made in general hospitals, nor at long distances from the surgeon's residence, as he then is often of necessity obliged to intrust patients to the care of inexperienced and untrained attendants and nurses.

In support of the foregoing: First, sufficient evidence is found in the statement recently published in the medical journals to the effect that the first successful ovariectomy in Bellevue Hospital, New York, is of a very recent date—only since the completion of a new pavillion where it was performed. Second, the reader is referred to statistics and remarks relating to the late Prof. Peaslee's ovariectomies, published in the *American Journal of Obstetrics* for October, 1882, where it is shown that the large percentage of fatal cases were greatly owing to operations made far from his own home and leaving the patient to the care of others thus really having nothing personally to do with either preparatory or after-treatment. The best places for ovariectomies are well-regulated private hospitals, with well-trained nurses and attendants, or private houses for the time being practically converted into private hospitals, with the same kind of nurses and attendants. The advantages of such arrangements cannot but be obvious, and certainly require no lengthy argument in their behalf.

Items.

COOK COUNTY HOSPITAL.

We regret to hear that there is no medical clinic on Tuesday.

The surgical clinic Tuesday is conducted with his usual skill by Dr. Fenger.

On Tuesday the medical and surgical clinic is well conducted by Drs. Henrotin and Hutchinson.

The hospital house staff at present consist of Dr. J. A. For-dyce, Chicago Medical College, house physician. His assistants are:

First assistants—Drs. F. S. Johnson, Chicago Medical College; C. E. Currie, Rush Medical College.

Second assistants—Drs. E. P. Davis, Rush Medical College; Elbert Wing, Chicago.

Dr. G. M. Hammon, Rush Medical College, house surgeon. His assistants are:

First assistants—E. R. Bennett, Rush Medical College; J. E. Marshall, Chicago Medical College.

Second assistants—Dr. M. L. Harris, Rush Medical College; W. G. Clarke, Rush Medical College.

The terms of office of the house physician and house surgeon will expire April 1. There are 440 patients in hospital. A complete set of new medical and surgical instruments has just been purchased.

Upon the 8th and 9th of this month was conducted the annual examination of candidates for the position of internes. Applicants to the number of eighteen presented themselves, and submitted papers in the following branches: Anatomy, physiology, chemistry, surgery, ophthalmology and otology, obstetrics, gynæcology, medicine, pathology and materia medica. An hour was

given for answering, in writing, five questions from each examiner. The names are presented, in the order of merit, of those who have gained a position upon the house staff:

G. D. Shaver; Clifford B. Wood; Chas. Davison; Thos. E. McDermott; Ernest G. Epler; Wm. H. Weaver; C. M. Coe; Hugh Menzies.

In case any vacancies should occur, the following alternates will have an opportunity to serve. The list is arranged also in the order of merit:

H. M. Hall; Herman E. Burbank; Miss Fannie Dickinson; Miss Isabella White, Frank P. Peck—equal rank.

The advantages presented by this hospital for clinical experience in all departments are so great that those who gain the opportunity to serve as house officers are to be congratulated.

THE next annual meeting of the Association of American Medical Editors will be held in the city of Cleveland, Ohio, simultaneously with that of the American Medical Association, on June 5 and 6, 1883. The following will be the order of exercises:

Tuesday, June 5, 7:15 P.M.—Roll called; reading minutes of previous meeting; President's address and discussion thereon; reports of committees; deferred business; new business; election of members; adjournment.

Wednesday, June 6, 7:15 P. M.—Roll called; reading minutes of previous meeting; address by Dr. Henry O. Marcy, of Boston; reading of special papers by Dr. John A. Octerlony, of Louisville, Ky., and Dr. Alexander J. Stone, of St. Paul, Minn.; discussion of addresses and papers; reports of committees; deferred business; new business; election of officers and members; adjournment.

The subject of the address to be delivered by the President, Dr. N. S. Davis, of Chicago, is "The Present Status and Tendencies of the Medical Profession and Medical Journalism." A free discussion upon this important subject is invited, which will be open, not only to members, but to all physicians present. Dr. Marcy's address will be upon the subject of "Journalism devoted

to the Protection and Concentration of Medical and Surgical Science in Special Departments."

The Secretary was authorized at the last meeting of the Association, held at St. Paul, Minn., to make the above arrangements for the coming meeting, and also to specially invite all the members of the profession, and friends attending the meeting of the American Medical Association, to be present. The meetings will be held in the interval between the meetings of the sections of the American Medical Association, and the social entertainments of the evening. The sessions will be short, and undoubtedly interesting.

COLLEGE OF PHYSICIANS AND SURGEONS.—At the Faculty meeting, March 17, 1883, the following chairs were declared vacant:

Practice of Medicine, occupied by Dr. Carpenter; Surgical Anatomy, occupied by Dr. French; Genito-Urinary Diseases, occupied by Dr. Ielks. At the same meeting the following appointments were made:

Practice of Medicine, Dr. F. L. Wadsworth; Genito-Urinary Diseases, Dr. E. W. Sawyer; Medical Chemistry, Dr. Harrison; Surgical Anatomy, vacant.

Dr. Power resigned the position of Demonstrator of Anatomy.

Dr. Wadsworth has not yet accepted.

THE quarterly meeting of the Illinois State Board of Health will be held in Chicago, April 12, at the Grand Pacific Hotel. At this meeting the annual examination of non-graduates* will take place.

DR. S. W. SLEATER, a prominent physician of Charlotte, Michigan, died of congestion of the brain March 18.

THERE are 30 students in attendance at the Woman's Medical College for the spring session.

THERE are 200 students in attendance at the spring session of Rush Medical College.

CLINICS.

MONDAY.

Eye and Ear Infirmary—1.15 to 2.15 p. m., Otolological, by Dr. Schaefer; 2.15 to 3.30 p. m., Ophthalmological, Dr. Holmes.
 Mercy Hospital—2 p. m., Medical, Profs. Hollister and Quine.
 Rush Medical College—2 p. m., Medical by Prof. Bridge; 3 p. m., Dermatological and Venereal, by Prof. Hyde.
 Woman's Medical College—2 p. m., Dermatological and Venereal, by Prof. Maynard.

TUESDAY.

Cook Co. Hospital—2 to 4 p. m., Medical and Surgical Clinics.
 Mercy Hospital—2 p. m., Surgical Clinic, by Prof. Andrews.
 Woman's Medical College—10 a. m., Prof. Ingals.

WEDNESDAY.

Chicago Medical College—2 p. m., Eye and Ear, by Prof. Jones.
 Rush Medical College—3 p. m., Ophthalmological and Otolological, by Prof. Holmes; 3 to 4 p. m., Diseases of the Chest, by Prof. Ross.
 Woman's Medical College—2 p. m., Eye and Ear, by Dr. W. T. Montgomery; 3 p. m., Diseases of Children, by Prof. Chas. W. Earle.
 Eye and Ear Infirmary—2.30 p. m., Dr. E. J. Gardiner.

THURSDAY.

Chicago Medical College—2 p. m., Gynæcological, Prof. Dudley.
 Rush Medical College—2 p. m., Diseases of Children, by Prof. Knox; 3 p. m., Diseases of the Nervous System, by Prof. Lyman.
 Eye and Ear Infirmary—1.15 to 2.25 p. m., Otolological, by Dr. Schaefer; 2.15 to 3.30 p. m., Ophthalmological, Dr. Holmes.
 Woman's Medical College—3 p. m., Surgical, by Prof. Owens.
 College of Physicians and Surgeons—2 p. m., Medical, by Prof. S. A. McWilliams; 3 p. m., Surgical, by Prof. R. L. Rea.

FRIDAY.

Cook County Hospital—2 to 4 p. m., Medical and Surgical Clinics.
 Mercy Hospital—2 p. m., Medical, by Prof. Davis.

SATURDAY.

Rush Medical College—2 p. m., Surgical, by Prof. Gunn.
 Mercy Hospital—2 p. m., Surgical Clinic, by Prof. Andrews.
 Chicago Medical College—3 p. m., Neurological, Prof. Jewell.
 Woman's Medical College—2 p. m., Gynæcological, by Prof. T. D. Fitch.
 College of Physicians and Surgeons—2 p. m., Diseases of the Chest, by Prof. S. A. McWilliams; 3 p. m., Gynæcological, by Prof. A. Reeves Jackson.
 Daily Clinics, from 2 to 4 p. m., at the Central Free Dispensary, at the South Side Dispensary and at the West Side Dispensary.

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Original Communications.

ARTICLE I.

THE PREVALENCE OF PNEUMONIA IN CHICAGO IN 1882; ITS CHIEF CAUSES AND CHARACTERISTICS. By N. S. DAVIS, M.D., etc. (Read to the Chicago Medical Society, March 19, 1883.)

That acute pneumonia, pneumonitis, pneumonic fever, lung fever, and winter fever, as it is variously called by different parties, is one of the most common, as well as most fatal, forms of disease the physician has to encounter, is shown by the mortuary statistics of all civilized countries. A more definite and correct idea of the prevalence of pneumonitis, or acute inflammation of the parenchyma of the lungs, and the mortality arising therefrom, is conveyed by the following statistics, taken from the official records of mortality in cities representing the different parts of our country, for the year 1882: The whole number of deaths from pneumonia reported to the health office in this city

during the year just named, is 782; from broncho-pneumonia, 42, and from pleuro-pneumonia, 20.

As bronchitis and pleurisy are much less dangerous to life than pneumonia, it is proper to attribute the deaths reported under the complications named to the latter disease. If so, the aggregate of deaths from pneumonia in this city during the year 1882, was 844; or one in every 597 of the population, as given in the census of 1880. In the same year, the whole number of deaths from pneumonia in Boston was 681, or one in every 532 of the population, as given by the census of 1880. The number of deaths from pneumonia in San Francisco for the year ending June 30, 1882, was 527; or one in every 441 of the population.

The number of deaths reported from pneumonia for the year 1882 in New Orleans, was only 203; or one to every 1,088 of the population.

The four cities I have named represent the northern Atlantic coast, the northern part of the great interior valley of the continent, the southern part of the same valley, and the Pacific coast.

In all of them, the ratio of mortality is sufficient to indicate that the disease is one of the most important with which the physician has to deal. In examining the mortuary tables of previous years, I find the ratio of deaths from the disease in question in Boston and New Orleans for 1882 to be not above the ratio for the two preceding years. In Chicago it appears moderately above the average, as shown by the fact that in 1880 the number returned was 605; in 1881 it was 707, and in 1882 it was 844; the latter being an increase greater than could be explained by any increase of population. In San Francisco, however, the number returned for 1882 is so much in excess of previous years, as to indicate the operation of some unusual cause or causes. For instance, the number of deaths from pneumonia for the five preceding years were: for the year ending June 30, 1877, 306; 1878, 314; 1879, 334; 1880, 368; and 1881, only 296, while, as previously stated, the number for 1882 was 527. If we take the average annual mortality for the five years preceding 1882, it would be 324, or one in every 723 of the population, instead of one for every 441, as in 1882. Again, if, instead of taking the unusually high figures for 1882 in Chicago,

we take the average for the three years 1880-1-2, we shall have an annual mortality of 718, or one in every 702 of the population, instead of one for every 597, as given for 1882 alone.

With these corrections, the relative rates of mortality from pneumonia in the four cities named would stand thus: For Boston, one death in every 532 of the population; Chicago, one death in every 702 of the population; San Francisco, one death in every 723 of the population; New Orleans, one death in every 1,088 of the population.

Assuming these figures to be substantially correct, and that the cities chosen fairly represent the northeastern, northern interior, western and southern divisions of the United States, they show, first, that pneumonia is most prevalent and fatal in those sections of country in which the meteorological conditions are most changeable, with a predominance of cold, moisture, and high winds, with a wide range of temperature between the warmest days of summer and the coldest of winter; thereby following the same law in relation to climatic influences as bronchitis, and inflammations of the respiratory passages generally; second, that some of the statements in our standard works on practical medicine need revision and material modification. For example, Dr. A. B. Palmer, in the most recent work on practical medicine issued from the press, says: "Its prevalence is extensive over the globe, and it is found *nearly alike in all latitudes*. Its geographical distribution is different from that of catarrh or bronchitis." (See Science and Practice of Medicine, Vol. II, p. 204.) Dr. Bartholow says: It is a very common disease; it occurs in all degrees of latitude, under every variety of climate, and at all ages." (See Practice of Medicine, p. 325.) Dr. Flint, in his well-known work on the Practice of Medicine, says: "In this country, the disease occurs in the Middle and Southern, much oftener than in the Northern States." (See Practice of Medicine, fifth edition, 1881, p. 168.) Some of the expressions of Dr. Drake, in his work on the Topography and Diseases of the Interior Valley of the Continent, are of the same import as that just quoted from Dr. Flint. And yet the statistics I have quoted from the most reliable records, show not only a wide difference in the ratio of prevalence in different latitudes, but the necessity for

directly reversing the statements of Drs. Flint and Drake; the ratio of deaths from the disease being double in Boston, and one-third greater in Chicago, than in New Orleans, Mobile, Augusta, Jacksonville and Charleston; the two first representing the Northern and Northeastern States, and the five last named the Southern States. The ratio in San Francisco, while showing a degree of prevalence intermediate between the northern and southern climatic belts east of the Rocky mountains, is still more strikingly at variance with statements found in works of high authority.

Thus, Dr. Wilson Fox, in the chapter on pneumonia in Reynolds' System of Medicine, when discussing the influence of climate, says: "Oregon and California appear to enjoy a singular immunity from the disease." (See Reynolds' System of Medicine, Am. edition, vol. II, page 154.) That the meteorological conditions which constitute the elements of climate, exert much influence over the prevalence of pneumonia, is strongly corroborated by the fact that it is much more prevalent in some seasons of the year than in others. As a rule two thirds of all the cases and deaths occur during the months of December, January, February, March and April. Of the same import, also, is the fact that nearly twice as many males die from the disease as females, caused, doubtless, by their much greater exposure to the sudden and severe meteorological changes during their outdoor occupations. It was not my intention, however, to call your attention so much this evening to the general causes influencing the prevalence of pneumonia, as to some of the more local, and perhaps personal conditions and customs that may exert an important influence both on the number of attacks and on the special characteristics of the disease in particular seasons and localities.

It would be an interesting and profitable item of study to compare closely the different degrees of prevalence of the disease in different years, and in different parts of each year, with the coincident differences in the meteorological conditions, and the materials for such comparisons are now accumulating in the hands of a committee of the American Medical Association, but are not yet ready for full examination.

For instance, there must be some definite reason why pneumo-

nia destroyed 844 lives in this city in 1882, and only 605 in 1880; and equally so, why in 1882 the highest monthly mortality (122) was in January, and the highest in 1880 (i. e., 112), was in April, while in January of that year the number was only 48. The actual causes of such striking variations in the monthly and annual prevalence of an important disease in the same population and locality can and should be ascertained by patient and co-operative observations and records on the part of the members of this society. But in addition to the meteorological or climatic and seasonal influences, there are manifestly others of much etiological importance. For instance, in San Francisco, during the unusual prevalence of pneumonia in 1882, the ratio of deaths from that disease in the 212,520 Caucasian, or white inhabitants, was 1 in 498; in the 22,000 Mongolians, it was 1 in 232, or more than double that among the whites. So in New Orleans during the same year the ratio of deaths was nearly three times as great among the colored as in the white population. In this city and in Boston I have not the official figures for the several races comprising the populations, but I have examined the details sufficiently to know that I am quite within the limits of fact when I say that the mortality from the disease under consideration is thirty-three per cent. greater among the population of foreign birth than among the American part. Closer examination however, shows that these striking differences are not so much due to the inherent susceptibilities of different races, as to modes of living, habits of life and occupations. The aggregation of the Mongolians of San Francisco into the unsanitary Chinese quarters, and the poorly protected, often crowded and unsanitary dwellings of the colored population, not only in New Orleans, but on many plantations and other rural districts, often made worse by dissipation and exposure, afford abundant reasons why they should suffer severely from any acute disease of an endemic character.

It is also a fact that the great mass of foreign population in this and other northern cities belong to the laboring classes, and live in small houses with very small, poorly ventilated sleeping rooms, to which is often added location on damp soil, and from the confined, damp and warm air of these rooms the men go out in the morning to work and abrupt exposure to cold, with vaso-

motors depressed and blood imperfectly depurated. It requires but a moderate degree of observation to see why far the larger number of the deaths from pneumonia should occur among persons thus situated whether foreign born or native. Another agent which also exerts much influence in favoring the development of pneumonia is the habitual use of alcoholic drinks. Whether the evil effects are owing directly to the presence of the alcohol in the system diminishing nerve sensibility and retarding molecular changes, or indirectly to the greater exposures which drinkers generally encounter, I will not stop now to inquire. The fact that those who indulge in such habits are more liable to attacks, and more liable to die when attacked, is easily verified by observation, and is acknowledged by our best writers.

In regard to the special characteristics of the cases of pneumonia which have occurred in this city the past year, I am not, perhaps, as well able to judge as many of you, my opportunities for observation having been limited mostly to hospital and consultation cases. Such observations as I have made have led me to think the great majority of cases were accompanied by the dullness of expression, softness of pulse, mental wandering, dark color of the bloody sputa and occasional looseness of the bowels, that would require classing them as typhoid in their grade and tendencies.

In some of the cases coming under my observation, the cerebral symptoms were unusually prominent and in two or three cases they were manifest in an unusual manner. The first symptoms were very severe pain in head, most severe in the occipital region, with great restlessness and anxiety, hurried breathing and only little elevation of temperature. After about twenty-four hours the pain drifted to the lower part of one side of the chest, extremely acute, causing the respiration to be short or stifled, very frequent, and pulse sharp and quick; but the closest examination detected neither the friction of the first stage of pleurisy, nor the crepitant râle of pneumonia; nor the dullness on percussion of the second stage of either. After the pain in the side and other symptoms mentioned, with temporary feeling of sinking, had continued for nearly forty-eight hours, the pains ceased, the mind became calm, but the pulse and respi-

ration continued short and frequent, like one weary from physical exertion, and giving exaggerated or puerile respiratory murmur, but no râles or dullness over any part of the chest, and no expectoration. During the next twenty-four hours, however, the patient became gradually more dull or drowsy, the respirations shorter, with first crepitant râle over the right side of the chest, which gave place in less than eight hours to submucous râle, some bloody expectoration and marked dullness on percussion, with a weak and frequent pulse. In less than twenty-four hours after the first indications of pneumonic exudation, the whole of the right, and the lower part of the left, lung were completely filled with the exudative material, and the patient died.

Another of this class was marked by a decidedly hysterical order of nervous symptoms; and after suffering excruciating pain, vacillating from the lower half of the left side of the chest to the head, often, for several days without developing any physical signs of either pulmonary or cardiac disease, there supervened well marked symptoms of pneumonia, limited to the lower part of the left lung, quickly followed by endo-carditis. These symptoms had progressed only about twenty-four hours when the patient was seized suddenly with some convulsive movements, and shrieking, as if from intense pain. In this emergency a physician was called in, who administered morphine, both by the mouth and hypodermically. The patient soon fell into a sleep, from which she could be partially aroused six or eight hours later, but lapsed into stupor again, and died about twelve hours after the convulsion. In several other cases the cerebral symptoms came early, and presented the delirium analogous to that often present in the more active grade of typhoid fever. During its continuance, the respiratory movements become less and less efficient; the moist râles more prominent; the pulse soft, weak and frequent; the extremities cool, and skin generally relaxed and wet with perspiration.

In all these cases, the urine was scanty, and deficient in the chlorides, and was sometimes voided with difficulty. One of these patients died at the end of the first week after the attack, another on the eleventh day, and the rest recovered, in times varying from nine to twenty-one days. All the fatal cases mani-

festing unusual cerebral symptoms occurred in private families, in which no post-mortem examinations could be obtained. Those coming under my own observation were in the south half of the West Division of the city; and it may be proper to remark that cases of cerebro-spinal meningitis were occurring with unusual frequency coincidently in the same part of the city.

With the exception of the class of cases I have just been describing, the general character of the symptoms in the pneumonic attacks of the past year in this city has been such as to indicate a decided typhoid or asthenic grade of morbid action. In only a few instances has the fever in the early stage exhibited such a degree of periodicity as to indicate the presence of a distinct malarious influence.

In regard to the treatment of pneumonia, I will detain you for only a few words concerning the more important items or questions that the subject suggests. The three principal sources of danger to life from acute pneumonic inflammation are, first, the extent and intensity of the vascular engorgement in the first stage of the inflammatory process.

When the disease attacks the greater part of both lungs simultaneously, constituting full double pneumonia, as it occasionally does, both in children and adults, the compression of the alveoli or air cells from the over-distension of the network of capillaries surrounding them, may diminish the amount of air received to such a degree as to prevent the oxygenation and decarbonization of the blood. The respirations become hurried, panting and unsteady; the pulse feeble and frequent, while the heart at first beats excitedly, but soon gives indications of weakness and unsteadiness; the mind, at first excited and anxious, soon becomes dull, and in some cases incoherent, while the whole external surface, including especially the face, neck, and trunk of the body, appears first congested, then mottled with purplish spots, and finally cyanosed, with cold extremities, entire collapse and death. Such cases, in which the fatal result is from apnoea, or the direct exclusion of air, are of rare occurrence, not more than five or six having come under my own observation in a period of forty-five years.

The second, and much more frequent source of danger to the

life of the patient, is the amount of the exudation into the lung tissue and alveoli during the second stage in the progress of the disease. The exudation exerts a two-fold influence, namely, by depleting or actually diminishing the amount of blood in circulation, and by diminishing the oxygenation and decarbonization of the blood, from the exclusion of air from a large proportion of the alveoli of the inflamed part of the lung. With from one to three pounds of the elements of blood taken out of the circulation in the form of exudative material, and solidified in the alveoli and interstitial spaces of the lung structure, thereby excluding an equal bulk of air, you will readily see how a strong sedative or depressing effect is produced on the functions of both respiration and circulation, and why the cardiac force should be impaired, even to a dangerous degree, in the early part of the second stage.

The third source of danger is from the extent of purulent degeneration of the exudate, causing gray hepatization or diffuse suppuration instead of resolution, and progressive exhaustion of flesh and strength until death results from asthenia. It is thus evident that the cardiac weakness in the different forms, or rather stages, of pneumonia, which nearly all writers of the present time mention as the chief source of danger, and on which they found their use of particular remedies, is only a symptom or effect, resulting, in the first and second stages, from the sedative effect of imperfectly arterialized blood, and in the third stage chiefly from the extent of the suppurative process in the inflamed structures.

If these views concerning the actual pathological conditions that may endanger the life of the patient are correct, the objects most necessary to accomplish by treatment become obvious and well defined, namely, first, to limit the vascular fullness or accumulation of blood in the vessels of the inflamed part, and lessen the morbid excitability of the texture in the first stage; by which we shall prevent a dangerous degree of direct compression of the air cells in double pneumonia, and most efficiently limit the amount of exudation which is to constitute the chief source of danger in the second stage.

There are three practicable methods by which the quantity of

blood in a part may be diminished. First, by abstracting a part of the blood, as by venesection, local bleeding, and other evacuants; second, by diminishing the force and frequency of the heart's action by cardiac sedatives; third, by increasing the tone or contraction of the smaller vessels of the part, through the agency of the vaso-motor nerves.

That a prompt, free bleeding in the first stages of active pneumonia is capable of lessening the fullness of the pulmonary vessels and relieving the pressure on the alveoli in a marked degree, I have demonstrated so many times as to have no possible doubt of its reality. It is equally true that such relief will, in a large proportion of the cases, prove temporary, if relied upon alone; but, if followed by the prompt and judicious use of such cardiac sedatives, coupled with mild anodynes, as will lessen the force and frequency of the cardiac action in the more sthenic cases, and by efficient doses of such remedies as promote an increase of the tone or contraction of the pulmonary vessels in the malarial and asthenic cases, the advantage gained by the bleeding will be perpetuated, thereby rendering the amount of exudation and red hepatization to constitute the second stage much less, and ensuring an earlier and more perfect recovery. It is true that in all the milder more limited cases of unilateral pneumonia the venesection may be dispensed with, even in the active or sthenic type of the disease. In such the cardiac sedatives during the first stage, accompanied and followed by a combination of anodyne and expectorant remedies, with rest and proper nursing is all the treatment required. But it is equally true that in the more severe cases of this type, the omission of the bleeding at the proper moment, greatly increases the danger of unfavorable progress, and has in times past been the occasion of many fatal results. When the pneumonic inflammation occurs in persons whose blood and tissues have been under the habitual influence of malaria, the effect of quinine in from five to ten grain doses, in restoring the tone of the pulmonary vessels and repressing the general febrile symptoms in the first stage, is in most cases prompt and efficient. I have seen some cases of this variety completely arrested within the first forty-eight hours after the initial chill, by taking five grains of sulphate of quinine with one of calomel

and one of pulverized opium every three hours the first day and every six hours the second. After the latter a mild laxative to move the bowels and three grains of quinine three times a day for four days was all the treatment required. In all ordinary cases occurring under malarious influences, the prompt and judicious use of quinine may take the place of blood-letting in the first stage of disease. But when the attack is severe, involving a large portion of one lung or portions of both lungs, and the patient comes under observation within twelve hours after the chill, a bleeding of from twelve to twenty ounces will render the action of efficient doses of quinine and opium more prompt and certainly beneficial than it would be without such loss of blood. When pneumonia occurs in the midst of sanitary conditions, favoring the prevalence of typhoid and typhus fevers, our reliance for diminishing the vascular engorgement of the first stage, must be mainly on the use of quinine, ergotine, and sponging the surface with cool water, or covering the whole chest with emollient poultices.

I have called attention thus fully to the treatment of the first stage of pneumonia, and the different agents that may be employed for accomplishing the same general object (relief of the vascular engorgement in the inflamed structure), and their adaptation to the treatment of cases occurring under different etiological conditions, because it is only by acting in this first stage promptly and judiciously, that we can materially limit the amount of exudation which is to follow and determine the danger or safety of the subsequent stages of each case. I had intended to allude to two or three other items of importance in the treatment of the second and third stages of the disease, but I have already occupied too much of your time, and will defer them until another opportunity offers.

ARTICLE II.

THE HYPODERMIC TREATMENT OF SYPHILIS. By A. LAGORIO, M.D., Chicago, Illinois. (Read before the Chicago Pathological Society.)

Syphilis is a virulent disease which never develops spontaneously, but is transmitted by a mediate or immediate contagion, by

inoculation or by heredity. As all other virus, so the syphilitic cannot be known except by its effects, it not presenting any chemical nor special histological characters. Syphilis, once contracted, impresses on the organism a special and diathetic state, which is shown by various manifestations, which may be protracted to distant epochs from the moment of its infection. From the periphery of the body the disease proceeds toward the central parts; at first limited to the skin and mucous membranes; afterward invading the cellular tissues, the muscles, the bones and the viscera.

Although the venereal contact is the most frequent origin of syphilis, it is frequently acquired by many other means, as by kissing, by nursing, by smoking, etc., etc. It is only sufficient that the virulent products of a syphilitic individual come in contact with a sound individual who has the least solution of continuity of the skin or of the mucous membrane.

Guaiacum was once the great remedy for syphilis. Then the *cura famis*, or the *penitential Lent*, was established, consisting in the use of guaiacum and the privation of food, but the victims of this treatment soon made the method fall into discredit. Sudoriferous woods were then tried, as sarsaparilla, sassafras, etc., etc., and the preparations of gold and the mineral acids gained great favor. Berengarius da Carpi, having noticed a certain analogy between lepra and the cutaneous forms of syphilis, thought to cure them with mercury, and the results immensely surpassed his expectations. In lepra the remedy acted only as palliative, but it perfectly cured the syphilitic forms. He always obtained the most brilliant results; he became a great celebrity, and all ran to the Ligurian shore to regain the lost health. He became immensely rich, and to such an extent, that it was believed he had truly found the Philosopher's Stone, and the method so much sought by the alchemist, to transform any metal into gold. After this time every one applied himself seriously to study; experiments were made, one after the other, and the metal mercury passed into the scientific period. It seems that in the beginning of the seventeenth century, Paracelsus began to experiment on the action of mercury in syphilis, but the enormous doses which he used in a brief space of time, and his method of anointing the

body in heated rooms, and the great number of mercurial poisonings, aroused against him the most learned physicians, who showed the bad effects of the method, and the remedy was abandoned. It was not until a century and a half later that the mercurial preparations began to be used with more care, in moderate doses, and with due intervals between the applications. Then it was known that salivation was not necessary for the efficacy of the cure, and that this depended upon the curative power of the remedy, and not from the secretion and excretion produced by the remedy. Along with this treatment, the use of wine, of meat, of free exercise in open air, was permitted to the patients, and many other things which before were thought to be injurious to the good end of the therapeutical treatment.

Later, the distinction between venereal and syphilitic affections, which before were treated promiscuously, served greatly to confirm the utility of mercury; but after so many experiments, after so many millions of patients who served as proof, the bad feeling that many have against this remedy has not yet ceased, and yet a remedy has not been discovered more capable of antagonizing the syphilitic contagion when once it has penetrated the system. Carbolic acid, salicylic acid, thymol, pilocarpine, iodoform, taya, and many other remedies, have been recommended in these later times, but the chief credit has always remained to mercury.

Mercury is used internally and externally; externally, in the form of baths, fumigations and frictions; internally, by inhalation, by the stomach, by the rectum, and lastly, by hypodermic injection.

When baths are used, the sublimate is generally preferred, at a dose of two to ten gráms in a common bath. It is very useful, especially in infantile syphilis, and care must be taken to use it only when the skin does not present any ulceration, nor any solution of continuity capable of promoting the absorption. The patient remains in the bath from an hour to an hour and a half, and it is repeated every two or three days. In case of extensive serpiginous ulcers, or of softened and ulcerated gummata, disseminated in various regions, the dose of the sublimate in a bath must never be higher than two grams, as to act simply as a modifier of the eruptive form.

Fumigations, recognized since the sixteenth century by the Italian, Nicholas Massa, and now commended by Langston Parker, and by Paschkiss, of Vienna, consist in exposing the affected parts to the vapors of cinnabar, or to calomel, according to H. Lee. This method is especially adapted to those individuals possessed of a special constitution incapable of supporting mercury in any of its more active forms. Inunction is preferred in individuals unable to tolerate the remedy by the stomach, or by the hypodermic injection. But this plan of treatment is rarely regularly executed, because, as soon as the patient feels a little bettering of his sufferings, he will discontinue the tedious and uncleanly frictions, and stop the treatment.

The inhalations of sublimate do not act advantageously on general syphilis, but possess a curative value in some affections of the larynx and pharynx. The method most commonly used in the administration of the remedy by the stomach. Mercury is used by the stomach in those cases where, from the exceeding delicacy of the skin, the mercurial ointment causes inflammatory and vesicular eruptions of more or less extension, and where particular reasons prohibit the method of inunction. It is well known, and we must not forget, how mercury irritates and tires the stomach and enfeebles it; and in individuals badly organized, with morbid or hereditary dispositions, or affected with other diseases, the treatment often fails, and the syphilitic forms are reproduced, and become remittent and malignant. O'Connor proposed the introduction of mercury by the rectum in the form of suppositories. This method seemed once the surest; secret, easy, and of no annoyance to the patient. But practice has shown that only few patients could support it three or four weeks, and that almost all of them suffered with tenesmus, pains, and recto-intestinal catarrhs. Wallace made known the value of the potassic iodide. This can be given from the beginning to subdue the phenomena of syphilis, but it does not have any decisive action, except in the later forms.

Such a development as the hypodermic method has made in these few years in the treatment of syphilis, in defiance of the false and wrong interpretations of the various opinions, and of the disheartening reports from renowned authors, demonstrates

that this method of administering medicines is a serious and a necessary practice of the clinical physician.

To Lewin belongs the merit of having introduced the hypodermic injections of mercury in the treatment of syphilis. He has largely used the method in the Charity Hospital of Berlin, and has obtained surprising results. From that time, this mode of treatment gradually generalized to such an extent, that to-day a physician of the large clinics of Europe is rarely found, who does not use this useful method to conquer and dispel the syphilitic manifestations, without the least injury to the stomach, in an energetic and eminently quick way.

In May, 1866, the *Lancet* contained a report of Dr. Berkely Hill, who had treated eleven individuals affected with constitutional syphilis by the hypodermic injections, made of a solution of corrosive sublimate. In four of the individuals, five centigr. of the salt were sufficient to determine hydrargirosis; in other four seven centigr. were needed. The quantity used was one centigr. in each inoculation; higher doses produced colics and diarrhoeas; moreover, the inoculated spot remained painful for some time. Only once he saw a pustule develop in the place of puncture. Scarenzio, professor of syphilis in the University of Pavia, was one of the first to make use of the hypodermic method after Lewin. He injected calomel at a dose of twenty cent., and once of thirty cent., with a gram of dist. water and one-half gram of mucilaginous liquid, and reported to have obtained rapid cures without salivation. Only in few cases he saw the development of a small abscess, which rapidly healed after incision. C. Manassei, professor of cutaneous diseases and of syphilis in the clinic of H. Gallicanus, Hospital of Rome, repeated the experiments of Scarenzio, but, knowing the inconveniences of the abscess which generally followed the inoculation of calomel, to prevent it, and to make more applicable the hypodermic method in private practice, thought to use small and often repeated doses of corrosive sublimate; so doing, he had it immediately absorbed, and avoided the cauterizing action of the same. But, fearing that the corrosive sublimate introduced under the skin would produce gangrene, he experimented at first in the rabbit, and having obtained good results without any inconveniences in the skin, he used it to a

large extent in the treatment of many syphilitics, whose clinical histories yet remain in the archives of St. Spiritus Hospital. The daily dose was one centigram in diluted solution, divided in two injections in different localities.

Dr. E. Rasori, assistant to the clinic in the Hospital of Venereal Diseases, of Rome, reports * to have treated, up to December, 1879, forty-six patients affected with syphilis with the hypodermic injections. He accurately followed the course of the disease, experimented on the action of the remedy, and constantly kept them under observation up to 1881, so as to be able to notice any return of the disease, if happening. Of these, he reports 38 completely cured, and eight he denotes as ameliorated, for they were lost sight of, although at the time of dismissal from his care he considered them as cured. Of these, 29 were men, and 17 women. The number of injections used in each patient were 25 to 30. Only in three cases he resorted to calomel injections; the balance were treated with the sublimate.

Martineau has reported over 170 cases treated with the injections. He prefers the peptonate of mercury, and believes that his method of treatment acts more promptly and energetically upon syphilitic manifestations than any other.

Grefberg has also reported a large number of patients treated with the injections. He used the bi-cyanuret of mercury with little morphine. His results have been good.

Professor Semmola, of Naples, has also reported quite a number of syphilitics cured with the subcutaneous injections. He injects one or two mill. at a time, and repeats the operations two or three times a day, without any local accidents. In 25 to 30 days he has cured the most confirmed cases of syphilis. He especially reported two cases, in whom he made 25 injections of $\frac{1}{2}$ centigr. a day of the sublimate, with a complete cure. To avoid any local irritation, he adds to the sublimate a chloride and albumen. His formula is: Corrosive sublimate, 25 centigr.; sol. ammoniac, 3 grams; water, 30 grams, and to this he adds the white of an egg, which produces a clear liquid, somewhat dense, of which he generally takes two drops, which correspond to two milligr. of sublimate, and injects with a gram of distilled water. Prof. D'Amicis

* *Giornale Intern. delle Scienze Mediche.*

has also used to a large extent the corr. sublim. in diluted solutions, in hospitals and private practice, without the precaution of the chloride of ammonium and the albumen, as Prof. Semmola, and the injections were very well tolerated. Wrongly some have denied the prompt absorption of the mercury, inasmuch as Scarenzio and others, by introducing a catheter in Steno's duct, found in the saliva traces of calomel 24 hours after the injection of 20 cent. of calomel. The hypodermic method is sufficiently energetic. When a prompt improvement is needed for fear of grave morbid sequences, for instance, in case of iritis, with danger to the bulb and the visual faculty; in symptoms of cerebral compression, or in women in an advanced stage of pregnancy, with a possibility of an abortion or of near death of the foetus; and in cases of desperate and malignant syphilis, it is of the utmost value to use corrosive subl. hypodermically; or, better, calomel with care to promptly open any abscess, if happening in the spot of inoculation.

I have seen in Rasori's clinic, with only one injection of 25 cent. of calomel suspended in $1\frac{1}{2}$ grams of glycerine, a speedy bettering of an iritis within 24 hours, in a woman of feeble constitution, affected with tertiary syphilis; and also in two males who presented secondary manifestations of the disease. In the latter, one injection was sufficient, while in the former, two were needed. In a few days the photophobia, the pain and the redness rapidly diminished, and the pupil slowly regained its mobility. At the same time atropine was used locally, and the abscess, when opened, promptly healed, without any consequences.

A young woman twenty-six years old acquired a syphilitic infection. She applied to me in the month of April, 1881; she was then suffering with the secondary manifestation of the disease, and a marked bilateral iritis. The pain and the photophobia were intense; the pupil fixed, irregular, and with almost impossibility to fix upon any object. I injected in the left arm 20 centigr. of calomel in a gram of glycerine. Next day, the left eye showed a slight bettering, but the right one almost none. I then again made another injection, in the right arm. In 24 hours the bettering was marked in both eyes; a little more in the left. She stood on that day a prolonged examination. No more injections of calomel were made, but atropine was applied, and the bandage.

In about 20 days, the patient could use perfectly both eyes. The small abscesses produced by the injections were opened, and promptly healed. I finished the treatment of the syphilis with the sublimate injections. After 23 injections, every symptom disappeared, and after eight more, I pronounced the patient cured; in all 31 injections. Never saw the patient again until three months ago, when I learned she enjoyed good health, and thought to be in the second month of pregnancy.

The energy of the hypodermic treatment is also proven by the brevity of the time in which the symptoms disappear. In the greater number of cases which Rasori reports, after 20 injections, made alternately, the secondary symptoms of the diseases disappeared; in the worse cases, 30 to 40 injections were used, but rarely this occurred. He says that more than once has it occurred to him to see in a few days, as of wonder, the disappearance of symptoms which seemed permanent; such bettering rarely occurred in the ordinary method of treatment. Generally, the injections ought to be continued until, by palpation, we cannot any longer feel the indurated cervical glands. Only then we can feel sure of the complete cure. The determination of the complete cure of syphilis is one of the most difficult clinical tasks; many years of constant observation are necessary, not to the patient alone, but the observations must be carried to his offspring. Many authors assert that relapses are less frequent when the hypodermic method is used. During this treatment I have never seen a patient presenting any disturbance of the digestive or circulatory apparatus, nor in the function of the senses. In rare cases, traces of albumen may be found in the urine, which soon disappear, and never reach a notable amount. A progressive bettering and a better aspect of the patient is noted, and we feel sure that under the action of the treatment, the disease is sensibly ameliorated. The action of the remedy is very often shown in the salivary glands, although in many cases remaining unobserved; the patient feels only a slight metallic taste, of which he most frequently becomes aware when he is questioned about it; therefore, instead of being a true sensation, it may be only a mere fancy. Sometimes a little redness appears along the border of the gums around the teeth, especially if these are decayed. But if the mouth and

the fauces are regularly kept clean and in good condition, we can almost remain assured that the worst forms of syphilis can be cured without the least salivation.

The solution most commonly used by Rasori is: *Rj.* Corrosive sublimate, 1 gram; distilled water, 100 grams; chloride of sodium, 1.50 grams. This, filtered and bottled, will keep for some time. The addition of the chloride of sodium is found to be of great value, inasmuch as with it the amount of coagulation and infiltration in the point of injection is less, and the absorption is considerably increased; this is explained by the more easy and rapid solubility of the albumen precipitated by the sublimate in the connective tissue. It is a rule never to use more than one gram at each injection. The calomel is used suspended in glycerine, at a dose of 30 centigr. in two grams of liquid. If this dose is used, an abscess will follow, while by injecting 5 centigr., no notable reaction occurs in the spot of puncture. This mixture must be prepared always before using. Sigmund affirms to have obtained more favorable curative results with small doses of calomel (5 to 10 cent.) than with higher ones. According to his assertions, in many cases, not only he failed to see the abscess, but also the pain.

The cutaneous injection, considered as an operation, is most simple, and does not present any important singularity. Glass syringes, mounted in hardened rubber, are to be preferred to metal ones. The operation is conducted in the same manner as is every day done with any hypodermic syringe.

Ordinarily, the injection produces no pain in the act of operation; in some cases, the part becomes somewhat painful, but the pain easily ceases on the application of wet compresses. The addition of morphine to the liquid is not necessary. When the skin is delicate and sensitive, there remains a small circumscribed indolent induration, the shape of a node, which lasts some little time, around the puncture, and if another injection is attempted in the same place, the liquid will not penetrate, but regurgitate. From this, the rule not to make the punctures too near to each other.

The gluteal and dorsal region is generally preferred for the thickness of the skin, and for the little pain produced by the movements of the body. In worse cases, where it is necessary

to act rapidly, and calomel is used, the injections are better to be made in the arm, at the insertion of the deltoid and biceps, where any abscess which may be forming can be easily emptied and treated. The formation of an abscess is the greatest charge against the hypodermic method, but in the greatest number of cases, it is mainly due to the rough manner of the operator, and to the too little attention paid by him. One thing which is seldom recommended sufficiently, is to keep the syringe clean; it must be washed and diligently dried. It is unnecessary to say that it must be used only for syphilitic patients.

The syphilitic manifestations are easily disturbed, made worse, and rapidly changed by external influences that act unfavorably on them; therefore, hygiene is of utmost importance in the treatment of syphilitics. The patient must seek uniformity in the mode of living. Moving, exercising and attending to daily duties are not to be avoided, unless done in excess. In stormy weather, in-doors is necessary, and also a uniform temperature of the room, renovating frequently the air, without any exposure to any current, to avoid taking cold. The patient will keep to his room and bed in case of a general eruption of symptoms, or during an energetic treatment. The obstinacy of the disease frequently makes a patient despondent, downhearted, and lose confidence in the treatment; here the authority of the physician will do great good.

The diet should consist of such food as is easily digested, nourishing, and not stimulating. Meat, milk, eggs, light vegetables and starchy food is to be preferred daily; while aromatic and compounded drinks, vegetables, fats and alcoholics are to be avoided. Smoking is also to be avoided, especially if the oral mucous membrane is diseased. The irritation of the smoke interferes with the healing of the local lesions of the mouth long after the disappearance of the symptoms, just in the same manner that rough work will produce identical results in the psoriasis of the hands, and scratching in the acneiform eruptions of the face.

Tonics and ferruginous preparations are of great benefit in the feeble, lymphatic, in the marasmus of syphilis, and in tardy manifestations of the disease. Marine air, and living in thermal and mountainous regions, are of benefit.

In the gummous tertiary forms, the decoction of Zittman has lately been highly praised, and was largely used by Hebra. Besides such substances as alum, sugar, cinnabar, senna, etc., its action is mainly due to sarsaparilla and calomel. The treatment and the hygienic rules are to be followed for some time after all symptoms have disappeared, to avoid any returns.

I have had occasion to treat some syphilitics with the methods that I have endeavored to explain to you in this paper. I would relate their histories, methods of treatment adopted, and results, but I fear I have already delayed myself too long. My expectations with the hypodermic injections of mercury in the treatment of syphilis have been successfully fulfilled, with great satisfaction to myself and happiness to my patients.

From all that I have so far said in a brief and imperfect manner, I wish not to deduce that the injections constitute the only sure method to conquer all the stages and morbid phenomena of syphilis, nor that they are to be preferred to any other therapeutical method. My intent is only to make known their utility, and the convenience that they afford in public institutions; the little time lost by the patient and the physician; the brief inconveniences that they cause; the little or no danger of stomatitis and of mercurial salivation; the little disturbance to the stomach; the secrecy with which a treatment can be continued; the satisfaction to be able to determine the exact dose of mercury introduced in the organism, and the certainty of the exact continuance of the curative method, which in other ways depends upon the caprices, the business, or the ideas of the patient; and moreover, it is regulated by the constant watch of the physician.

In the greater number of cases, an energetic treatment is effected with the injections, which, without any notable disturbances and bother, bring to a rapid and durable cure, rarely followed by any returns; a result that we can hardly hope to obtain by adopting other methods.

ARTICLE III.

CASES FROM PRACTICE, BY R. G. BOGUE, M. D., CHICAGO.

Fibroid in Abdominal Wall.

Mr. Allen, age 28, about two and a half years ago noticed a small lump in the abdominal wall, a little above, and to the left, of the navel. It steadily increased in size, but was neither tender nor painful, the only discomfort experienced coming from the hard bunch being pressed upon by the clothing and hit by anything held against that part of the abdomen. Of late it had increased noticeably in size, and being alarmed about its growth, he sought advice. Upon examination, a tumor about the size of a fist could be felt evidently in the abdominal wall, occupying a place a little above and to the left of navel, extending to near the border of the ribs, not movable laterally, nor upward nor downward; could be pressed backward somewhat, but not lifted forward; the skin freely movable over it, resonance behind it, no tenderness, and not painful. Diagnosis, probably a fibroid growing in the sheath of the rectus, or in the hard part of the abdominal wall. Extirpation was advised.

September 23d, assisted by Doctors John Bartlett and G. W. Reynolds, I removed the tumor under the carbolic spray, the patient being etherized, after dividing the skin and found the tendon in front of the muscles very much thinned. It covered the tumor and was adherent to it, except at the outer border, where it seemed to have been separated and crowded downward. The muscular fiber was exceedingly thin, and but little was seen except along the border of the ribs and at the lower edge of the tumor where the rectus seemed adherent to it. The tumor was separated from its attachments and enucleated from its bed and removed without difficulty. When the tumor was removed there was left a cavity with tendinous borders, mostly, and which had for a floor the peritoneum. Two or three vessels were tied with catgut, and the wound closed by passing through all of the tissues to the peritoneum, sutures of silk-worm gut, thereby drawing the tendinous borders of the opening as near together as possible. A drainage tube was left in the lower angle of the wound, and a

Lister gauze dressing applied. The dressings were changed at the end of every twenty-four hours; they were soiled somewhat by a moderate discharge of bloody serum; the drainage tube was removed. The whole wound healed by first intention, there being no soiling of the dressings except the bloody serum of the first day. The sutures were removed at the end of a week, having held the parts very nicely, and with very little irritation and no suppuration around them. The patient suffered during the first forty-eight hours with quite severe spells of colic, caused by gas within the intestines. This was quieted by morphine and a mild laxative. There was no other annoyance, and in ten days he was able to be out of bed. He is to wear for a prolonged time a snugly fitting band to protect the weakened part of the abdominal wall.

I would call attention to the silk-worm gut for sutures. It is more easily or readily used for closing a wound than silver wire; is a source of as little irritation and may be left in place for any necessary length of time, up to two weeks, provoking no suppuration, and is readily removed, more so than wire. Either of them is, we think, far preferable to silk. The drainage tube has served its purpose; allowing the escape of blood and serum directly after operation, by the end of 24 to 48 hours, and should then be removed, in most cases.

Excision of Knee-Joint for Chronic Adhesive Inflammation—Recovery.

CASE I. Fannie B., aged 16 years, came under my care March 22, 1877. Four years previously she had experienced sudden pain and stiffness in the right knee, which soon became hot and swollen. At the end of three months, having meanwhile made cold applications, she had regained fair use of the limb. For two years she suffered no inconvenience, but, after convalescence from typhoid fever, she was compelled to use crutches, the knee being stiff, swollen, tender and painful; was well nourished, and general health good. The excision of the knee was determined upon. The usual horse-shoe flap was made, when it was found that there was no ulceration, but that the synovial cavity was nearly obliterated by bands of adhesion; the

inner condyle was enlarged by chronic inflammation. In consequence of this enlargement the patella was apparently displaced outwards upon the external condyle. The articular surface of the tibia, the patella and the condyles of the femur were removed; the flap was replaced; several sutures were inserted; the limb was dressed on a long posterior splint, which was suspended from a frame; a drainage-tube was inserted into the angle of the wound, which was covered with a carbolized compress and oiled silk. Anodynes were administered as needed.

During the two days following the patient had severe nausea and vomiting, but after that time presented not a single unfavorable symptom. Her pulse ranged from 90 to 116; her temperature from 100 to 102.

April 18.—Hodgen's anterior splint was substituted for the straight splint. On the 20th this was replaced by a plaster of Paris dressing, which was made to grasp firmly the thigh and the leg, and was especially strong behind the knee, but was cut away above so as to leave the wound exposed.

June 4.—The drainage-tube was removed.

June 14.—Patient began to walk with the aid of crutches.

July 4.—A small piece of bone was removed from one of the sinuses still open.

Several small sinuses remained obstinately open until the middle of October. During her long sojourn in the hospital patient's general health continued excellent, and, upon her departure, November 2d, she walked readily with a single cane.

Four years later the patient was seen. The leg had given no trouble and was a good and useful limb, but short about four inches.

Excision of Hip-Joint—Recovery.

Willie J., 10 years old, was admitted March 12, 1877. Three years previously he had fallen down and hurt his hip, after which time he was unable to rest the entire plantar surface of the foot on the ground, but transmitted his weight through the toe. A year later there was a discharge of pus from an opening at the posterior border of the great trochanter. The sinus closed and re-opened several times.

On admission the right leg and thigh were found somewhat atrophied; the thigh slightly flexed and adducted; the hip-joint ankylosed. There was a sinus at the posterior border of the great trochanter and a large fluctuating tumor at the upper and anterior aspect of the thigh. The patient complained of great pain in the right knee.

Examination under an anæsthetic detected no carious bone the sinus leading down simply to the capsular ligament.

April 4.—An incision was made over the great trochanter and the upper extremity of the femur removed just below the lesser trochanter. The head and neck were mostly ulcerated away, a mere shell of bone remaining. Alcohol dressings were applied; the limb was extended by weight and pulley, counter extension being made by elevating the foot of the bed.

During the next week the pulse ranged from 120 to 140; the temperature from 101° to 104° . The general condition gradually improved, the pulse and temperature fell, the discharge continued profuse and on April 18, a drainage-tube was inserted. April 24, an abscess was evacuated below Poupart's ligament. June 6 to 26 he complained of more or less pain in the right knee.

July 7.—Extension was removed in consequence of ulceration beneath the straps, but was renewed August 10. September 1, patient was allowed to leave his bed and to walk around on crutches. November 6, several fragments of carious bone were removed, the discharge still continuing. December 15, a section of the complete circumference of the femur (the cut end) one-half inch long escaped from a sinus on the outer side of the hip.

There still remains (February 8) two sinuses leading down to carious bone. The boy enjoys good health and exhibits great activity upon two crutches.

Excision of Knee-Joint for Chronic Destructive Inflammation—Pyæmia—Death.

Peter J., 26 years old, was admitted Nov. 2, 1877. Five years previously he had been thrown from a horse, sustaining an

apparently slight bruise of the left knee. With the exception of a little soreness in walking for two or three days, he experienced no inconvenience. Three years later, without any provocation, so far as he knows, the knee became red, swollen and tender, and after some days there burst from the knee, just below the outer border of the patella, a little yellow, watery liquid. There was, for two or three months following, a slight but constant discharge of similar liquid, at the end of which time the sinus closed.

Three months prior to admission, without the infliction of any violence, the knee became so painful that he was compelled to keep it quiet, and in this condition he entered the hospital. Hot fomentations were applied with the effect of still further reducing the swelling.

Nov. 27.—Patient was etherized and an exploratory incision was made into the joint revealing about two ounces of pus and extensive ulceration of the articular cartilages and bone surfaces. The usual semicircular flap was then raised and the condyles of the femur, patella and the articular surface of the tibia were at once removed. The flap was replaced; sutures inserted; the limb was placed upon a long posterior splint, and alcohol dressings were applied.

The patient had no untoward symptom until the morning of Dec. 3, when there occurred a slight chill. A second, more violent, occurred Dec. 5. His pulse and temperature remained high, and in a few days frequently recurring chills, profuse perspiration, a pinched countenance, cessation of suppuration rendered unmistakable the toxæmic condition. Death occurred from pyæmia Dec. 20.

The cut surface of the tibia was found to be granulating, that of the femur sloughing.

Abscess in Lower End of Tibia.

Annie Martin, aged 29, when about nine years of age fell, bruising the right shin. It gave her but little pain at first, but in the course of three or four weeks an abscess had formed over the front of the middle part of the tibia, which remained open for two or three years. Occasionally small bits of bone came from it.

At the end of this time it closed, and remained so for about twelve or thirteen years. A small abscess formed seven years ago which soon closed; and about five years ago another formed at seat of the former ones, which was open for several months. Three years ago an abscess formed near the upper end of the tibia, which soon closed after opening. About one year ago the lower end of the tibia began to enlarge and became painful. When I first saw it there were numerous cicatrices along the front of the tibia from the old inflammation, of superficial necroses which had occurred. These cicatrices were adherent to the bone, but there was no tenderness of the bone except at the lower extremity, which was enlarged, moderately tender upon pressure and the seat of severe pain, especially at night; no particular redness of the skin. It had been gradually enlarging, becoming more and more uncomfortable, and, finally, painful for about a year. From the even and uniform enlargement, absence of soreness of the skin, although the bone coverings were sensitive and the deeply seated and severity of the pain, it was thought there must be an abscess in the lower end of the tibia.

Up to this time, the latter part of August, 1879, she had continued at her work as chamber-maid and table-waiter in a hotel. It was treated for about a week by rest in an elevated position enveloped in a warm anodyne fomentation. No relief being obtained from this treatment, it was decided to make an exploration of the bone.

Sept. 4, 1879.—Patient etherized; an incision made through the coverings of the bone over the most prominent part of the swelling, just above and a little to the front of the middle of the base of the internal maleolus. The periosteum was found thickened. The bone was pierced with a Brainard drill, and, after boring to quite a depth, a cavity was reached. On removal of the drill a drop or two of pus welled up through the opening, which established the fact of an abscess. With a trephine a button of bone was removed, uncovering a cavity which would hold about half an ounce of fluid, about which quantity of pus was removed. No bone fragments were found. The cavity was cleansed, a tent left in and ankle enveloped with an antiseptic wet dressing. After a few days a wax plug was fitted into the

wound and covered with oakum. It was cleansed daily. There was very little pain after the operation. Oct. 2, a point of bone was noticed in the granulations and, on removal, proved to be a ring of bone which had necrosed from about the opening made by the trephine.

The cavity gradually filled with granulations; the wound cicatrized, and by Nov. 13, when the patient was discharged, it had healed; and now, at the expiration of a year, the limb is entirely useful, not painful and not tender. There is enlargement remaining.

ARTICLE IV.

REPORT OF TWO CASES OF HYDROA. By EDWIN R. BENNETT, M.D., Cook County Hospital, Chicago.

Prof. Duhring defines hydroa as an acute inflammatory disease, characterized by one or more groups of variously sized vesicopapules or vesicles, arranged in the form of concentric rings, attended as a rule by the display of varied colors. All cases of a disease are not typical therefore. I present the following cases taken from the records of the Cook County Hospital, as presenting some interesting points;

Case 1. J. R.; Swede; æt. 21; occupation, clerk.

No history of any previous sickness, or family taint.

Only venereal lesion, gonorrhœa; all lesions pointing to syphilis wanting; drinks beer daily, moderately.

Admitted to hospital September 8, 1882.

One and one half weeks before admission, without any known cause, patient discovered reddish macules, shortly becoming vesicles and in some instances the vesicles uniting to form bullæ, appearing on the backs of hands, fore-arms, legs and feet, varying in size from pin head, to that of a hickory nut. In from twenty-four to forty-eight hours after the first appearance of the lesions, the contents which before were yellowish serum, would in some instances disappear without further change, while in others the contents become cloudy, soon rupturing and drying into a lightish scab, which would disappear in a few days. In certain in-

stances when the macules were violently ruptured, an inflammatory condition of the base would ensue, with the production of a few drops of pus. It was also noted that while it was developing in one part, it would be undergoing retrograde metamorphosis in another.

Neither did the lesions assume a distinctly circular form nor present the variegated and delicate tints that gave us the German name herpes iris.

Its location and symmetry are to be observed, occurring with remarkable regularity on both hands, forearms, legs and feet, dorsal aspect only in each case. An entire absence of constitutional disturbance was noted, and the only local symptom was slight soreness. Cod liver oil was given internally and carbolyzed cosmoline locally. In a few weeks the patient was discharged cured.

Case. 2. J. M.; æt. 25; English; lawyer by occupation. Habits temperate. Only venereal accident, gonorrhœa. Admitted October, 6 1882.

Present trouble began August 1, by development of vesicles on back of hands and forearms. There were no bullæ, each vesicle ruptured spontaneously, some disappearing without further change, in others the contents dried in a lightish scab which was quickly exfoliated, leaving a reddened base. Order of appearance; 1. hands, dorsal aspect; 2. forearms, extensor aspect; 3. dorsal surface of feet, and lastly extensor surface of legs.

The disease has not affected his general health in the least, but on account of its distribution the patient imagines it is a severe disease and wants prognosis and treatment. A few days afterward patient was discharged cured. The treatment being entirely local and confined to a dusting powder.

An examination of the history given shows us that the disease in question, is in reality a harmless one, although formidable in appearance to the patient, and possessing characteristics sufficient to distinguish it from other vesicular, or vesiculo-bullous eruptions, the most of which are not harmless complaints. It is to be diagnosed from zoster by the absence of neuralgic pain and burning, and the situation, it not following the distribution of nerves.

From pemphigus, it is distinguished by being confined to certain limited regions and causing no constitutional disturbance.

From eczema, by absence of itching and infiltration of tissues.

It is to be distinguished from all by its harmlessness.

All the medication required is a local dusting powder, its importance attaching itself to the diagnosis to prevent us from treating it for something worse.

ARTICLE V.

THE TREATMENT OF BUBO. By G. FRANK LYDSTON, M.D.,
Late Resident Surgeon Charity and State Emigration Hospitals, New York; Lecturer on Genito-Urinary and Venereal Diseases, College of Physicians and Surgeons, Chicago. (Read before the Chicago Pathological Society, March 12, 1883.)

The management of bubo, an affection which we are so frequently called upon to treat, even in general practice, is discussed in a very cursory manner by the majority of writers upon venereal diseases, and, I think, unjustly so, as the subject is a quite important one, and merits more attention than some of the rarer affections which are often allotted considerable space.

Notwithstanding the fact that bubo is a very common disease, it is only in large hospitals, in which there are wards devoted exclusively to diseases of a venereal nature, that we are able to make any accurate practical observations upon its management, for it is only under such circumstances that we have the patients completely under our control, and at the same time a sufficient number of cases to permit of the thorough application and comparison of the various modes of treatment. The results of treatment of isolated cases in private and dispensary practice are, to a great extent, modified by the habits and general conduct of the patient, which are quite frequently diametrically opposed to the directions of the surgeon, and may lead to the condemnation of really useful therapeutic measures. The patient, unless absolutely

disabled, will not keep quiet; and not only this, but he will oftentimes continue to carouse, and, indeed, to keep up genital irritation, in spite of strict orders to the contrary, probably thinking, as too many are apt to think, that the various remedies prescribed ought to do their work without the slightest coöperation on his part. There are many points which must be mentioned in connection with the treatment of bubo, which are familiar, but which will bear repetition in the systematic discussion of its management. This is especially true of the elements of rest, counter-irritation and pressure. Regarding the subject from a systematic standpoint, the treatment of bubo resolves itself into several practical considerations: 1st, we have the question of prophylaxis; 2nd, the prevention of suppuration; 3rd, the management of suppurating bubo; 4th, the management of sinuses and exposed lymphatic glands; 5th, the management of gangrenous and phagedenic bubo; 6th, the management of chronic or indolent bubo.

With the exception of the prevention of suppuration and the consideration of the treatment of gangrenous and phagedenic bubo, these headings apply equally well to both the simple and virulent forms of the disease. The formation of pus cannot be prevented when a bubo is of a virulent nature, and a simple bubo is not very liable to either gangrene or phagedena, although either may occur under certain conditions.

The prophylaxis of bubo comprises but few points, but they are all important. The liability to the occurrence of bubo is of course greatly enhanced by any virulent property that may exist in the chancroid, if such be the source of irritation, and is of necessity, therefore, much greater in chancroid than in gonorrhœa, balanitis, or any of the simpler forms of local irritation, which so frequently give rise to adenitis.

Prophylaxis is consequently much less likely to prove effective in chancroid, and especially in its virulent form. Whatever the source of irritation, the chief prophylactic measure is, of course, perfect quiet, but in most of our cases of gonorrhœa or balanitic affections, and indeed, in chancroid, unless large and destructive, this is not practicable. We should, however, approximate it as nearly as possible. The patient may, at least, be impressed with the importance of avoiding all strains and violent efforts as far as

possible. When a patient is compelled to go about during the progress of his venereal disorder, and especially if his occupation entails a certain amount of muscular effort, or prolonged standing at the desk or counter, an excellent plan is to apply a double spica bandage, with a compress in each groin, to prevent the injurious effects of strains by supporting the part. This should always be done on the first indication of inguinal irritation, unless the patient can rest for a time. Another essential feature of the prophylaxis is the maintenance of strict cleanliness of the genital lesion, thus avoiding the presence of irritating discharges. All irritating and cumbersome applications and dressing of the genital sores should be avoided as far as possible, and in case gonorrhœa exists, irritating injections should not be used. All greasy or fatty substances should be avoided, as a rule, in the treatment of genital lesions, as they readily decompose and become rancid, thus increasing the irritation already existing, and preventing the maintenance of cleanliness.

Ordinary ointments form such vile and filthy applications, that these remarks might seem superfluous, had I not seen several cases in which they had been used with deleterious effects, by different practitioners. When chancroid exists, the thorough destruction of the specific and virulent properties of the sore should be accomplished, thus obviating, as is generally accepted, the occurrence of anything but simple bubo, unless absorption of infectious material has already occurred, and greatly diminishing the liability to even that form.

This must necessarily be accomplished by the use of sufficiently powerful caustics. The substance used is of great importance. In spite of the advice of nearly all of our prominent authorities, I find that many practitioners use the nitrate of silver for this purpose. Now, in my opinion, this improper use of the nitrate of silver is a very fertile source of bubo, as it is but adding fuel to the fire. As a destructive cauterant under such circumstances it is worse than useless, as it sets up irritation, or even inflammation, without, as a rule, acting powerfully enough to destroy the specific characters of the sore. During the healing of the sore after its specific characters have been destroyed, the granulations may become sluggish; as may happen in any simple ulcer, in which

event the judicious application of nitrate of silver may be of great service. The same remarks will also apply to the sulphate of copper, which is sometimes used. Of the more powerful caustics, the actual cautery is, of course, the best, but it is not usually practicable to use it. The most generally used caustic is the fuming nitric acid. My own preference, however, is for the pure bromine. Either should be preceded by the pure carbolic acid, for the purpose of obtaining its anæsthetic effect.

I shall devote more attention to this subject in a subsequent paper, which I hope to be able to present upon the treatment of chancre.

An important prophylactic indication is to maintain the free action of the bowels, as otherwise the straining during stool will produce inguinal irritation. I find that patients with bubo very generally complain of pain in the groins during a difficult stool. There is nothing more of importance to be said with reference to prophylaxis, and this brings us to the consideration of the prevention of suppuration, or the attempt to abort a threatening bubo. This is perhaps the most important element of our present subject in some respects. In the event that, in spite of prophylaxis, a bubo sets in, we should always, in my estimation, make the most strenuous endeavors to prevent the formation of pus, as the healing of a bubo after incision or rupture is usually a matter of considerable time, and often is exceedingly slow, even in the best hands, aside from its liability to serious inflammatory or hæmorrhagic complications. In addition to these disagreeable features, there is the usual result of a very unsightly discolored cicatrix, a by no means unimportant consideration, especially in women. The anti-suppurative treatment of bubo comprises several measures. We have first that which is perhaps most frequently used—counter-irritation, either with or without pressure. This method and its principles are quite universally understood, and will require comparatively little comment. The counter-irritant most frequently used is the ordinary tr. of iodine; or, better, the compound tr. with an extra amount of iodine added. If combined with pressure, a shot bag of say five pounds weight, is an excellent method for its application.

A better plan for the use of pressure, however, is to apply a

spica bandage, over compressed sponge, which is laid upon the bubo, the sponges being subsequently kept wet with cold water. As the sponge swells, we have a very firm and equable pressure exerted upon the tumor, in addition to the antiphlogistic effects of cold.

The benefits derived from this form of treatment are explained by the local anæmia thus produced, and the prevention of further exudation. A very good method of applying pressure is by the free application of collodion. The bubo is first thoroughly painted with the tr. of belladonna, and as soon as this is dry, the collodion should be applied. This should be repeated daily. I have seen this plan act very well. A combination of the use of belladonna plaster and pressure is also recommended. Blisters are sometimes used in this stage of bubo, but are not effective in producing anything but discomfort. The application of leeches for the purpose of averting suppuration by causing local depletion, is, I think, to be deprecated, as the leech bites form lesions capable of becoming infected by auto-inoculation in case the bubo should prove to be a virulent one, and the fewer such lesions the better. The injection of carbolic acid into the substance of the inflamed gland is strongly recommended by Dr. M. K. Taylor, U. S. A., as a method of aborting bubo, but it does not seem to be as successful in other hands as it would appear to have been in those of its originator. My own experience with it is quite limited, but the few cases in which I have given it a trial have not afforded me any encouragement. It could have no effect in virulent bubo in any event, and its antissuppurative power in even simple inflammation is, to say the least, doubtful. The mode of procedure is to make a number of injections into the substance of the inflamed gland of a 1-15 solution of ac. carbol. Busch, of Bonn, recommends Kern's cataplasm, which is composed of black soap and mustard, one-fourth or fifth. I have had no experience with it, but the rationale of its action is such that I am inclined to deem it worthy of trial. Mercurial inunctions are sometimes resorted to but in acute bubo should never be used, as, in common with all other applications requiring friction, they are injurious. In other phases of bubo we will hereafter consider their use. The iodide of lead ointment, in combination with the extract of bella-

donna, is oftentimes successful in aborting a bubo, if simple, and in diminishing the surrounding inflammation, if virulent, although it does not in the latter case prevent suppuration. I prefer this plan to the application of the acetate of lead as recommended by Ziessl and Patzelt.* Ziessl's method is to soak a number of compresses in a solution of the acetate of lead, and bind them upon the bubo, keeping them thoroughly wet. The ordinary lead and opium wash, with an increased proportion of both ingredients, is probably much better than a simple solution of the acetate. This was a favorite application with some of my hospital associates. Punctate cauterization is recommended by Vidal, but I do not think much of its usefulness in the acute form of bubo. A modification of it I am decidedly in favor of in the chronic forms, and will mention it in that connection. We now come to what, in my opinion, is the most powerful anti-suppurative measure at our command, the much-used and little-understood poultice. It is not long since such a claim for this remedy would have been greatly ridiculed, and it is even now held to be absurd by many practitioners. There is little said by those who advocate the use of poultices and hot fomentations in inflammation, in explanation of their action, save that they have an emollient or sedative effect, and favor free circulation, and it will perhaps not be out of place to attempt to explain, in some measure, the diametrically opposed effects of these applications. In the first place, it will be necessary to give a short description of those pathological changes in the tissues, which constitute an abscess, whether from bubo or other causes. As a result of inflammation, we have a localized accumulation of leucocytes in the inflamed tissues, these leucocytes, according to our best pathologists, having several sources for their production, viz: 1st, migration of white blood cells from the blood-vessels, notably the veins, into the tissues; 2nd, the leucocytes subsequently multiply by division, thus further increasing the amount of the purulent formation; 3rd, localized proliferation of the cellular elements of the connective tissue. As a result of the accumulation of cells, we have tension of the tissues, varying in degree with the amount of the corpuscular elements; there is also a certain amount of fluid transudation, constituting the liquor puris.

* *Archiv. für dermatologie und syphilographie* Prag., 5 Jahrg., 1873-4 Heft.

There is in all inflammations profound circulatory disturbance, and at the period of purulent formation, this chiefly consists in obstruction and stasis, which is still further increased by the circumscribed collection of cells, to a degree proportionate to the tension present. As a result of the pressure, there is lymphatic obstruction, and consequent abeyance of the function of the absorbents. The vitality of the tissue elements is impaired to an extent greatly modified by the amount of pressure and circulatory disturbance, this impairment of nutrition being greatest in those tissues immediately contiguous to the accumulation of pus, and shading off into the surrounding tissue area. As a result mainly of the pressure of the purulent formation, a layer of partially organized lymph forms upon the tissues surrounding the abscess cavity, and this in chronic abscess forms a pseudo membrane, which has erroneously been termed the "pyogenic membrane."

In acute abscess, however, it simply shades off into the surrounding tissues, which are, in a measure, matted together by the inflammatory exudate. The thickness and degree of organization of the layer of lymph, and the extent to which the vitality of the surrounding tissues are impaired, which, as I have said, depends mainly upon the amount of inflammatory exudate, and the consequent disturbance of the circulation, determines the facility with which resolution of a circumscribed inflammation on the one hand, and the formation of pus upon the other, takes place. It has been very generally claimed that pus, when once formed in a circumscribed collection, cannot be absorbed, but this is erroneous.

It is well known that the first factor in the production of the phenomena of inflammation, is the existence of irritation, and that this results in the various changes which I have described. This irritation is augmented still further by the accumulation of inflammatory products. Now, when we apply a hot poultice to an inflamed part, we first relieve the irritation and pain, which has an immediate effect in preventing or lessening further exudation, and probably produce a certain amount of vascular contraction, with consequent anæmia, through the medium of the vaso-motor nerves. By lessening the amount of exudate, we lessen the amount of circulatory obstruction, and thus relieve stasis

and diminish the impairment of nutrition resulting both from pressure and stasis. Relief of the circulation by lessening pressure is also attended by relief of obstruction, and the restoration of function in the absorbents, which changes are necessary for resolution.

If the inflammation has been very severe, and the exudation great, the nutrition of a certain number of the tissue elements has been so impaired that they cannot be resolved, and resorption, which readily occurs when the vitality of the tissues is only moderately impaired, cannot then occur. In an instance of this kind, the application of moist heat will fail to prevent suppuration, but will limit the amount of exudate, and prevent further tissue change. There is a certain area of hard indurated tissue about an abscess, as is well known, which area represents that, the changes in which I have described. According to the view I have presented, the cells in the outer portions of this area may have sufficient vitality to become resolved, while those in immediate relation with the abscess cavity have gone too far for such a change to occur. It is an observation that any one may verify, that the less the amount of induration surrounding an abscess, and the sooner it resolves or breaks down into pus, the sooner will the abscess heal after it is incised. There is much of truth in the popular idea that an abscess must be "ripe" before it is opened. Healthy granulations cannot spring up from tissues whose vitality is impaired by the pressure of a large amount of inflammatory exudate. The distinctness of fluctuation which is so evidently increased by poulticing, depends upon the amount of surrounding exudate, and at the same time that the tissue over an abscess is becoming thinned by the pressure of the pus, the inflammatory exudate in its meshes is being removed by the action of the poultices. We may formulate the action of moist heat, then, by saying, 1st. That it will prevent the formation of pus if the vitality of the tissue elements has not become too greatly impaired. 2d. That it will hasten maturation, and limit the purulent formation, if the impairment of nutrition has gone too far to permit of resolution. 3d. That it will diminish the indurated area about an abscess after incision or spontaneous rupture, and favor healthy granulation. It may be accepted, therefore, that poultices,

or the application of moist heat in some form, are beneficial at any stage of inflammation and abscess. Such applications, it is true, may be continued too long, with the effect of relaxing the tissues to such an extent that they become boggy and infiltrated, but practical experience alone will teach as how to avoid such a contingency. When we speak of the beneficial effects of poultices in the treatment of inflammation, whether of a lymphatic gland or any other tissue, we assume that such measures are properly applied, and not in the slipshod way which seems to be the rule. They are not, as a rule, properly made to begin with, and if hot at the outset, are quite likely to be allowed to become cool before they are applied to the part. Once applied, they are usually allowed to remain upon the part until they are cold, thus neutralizing any beneficial effects which may have been attained by the heat; if, indeed, the inflammation has not been augmented by the clumsy manipulation, as well as the rapid changes of temperature to which the part has been subjected.

As many practitioners, even, are lame in the apparently trivial question of poultice-making, or, if well versed in this, are in the habit of leaving the matter to the nurse, a few words upon this subject may not be superfluous. An emollient poultice, to be of service, should be sufficiently large, whatever its composition, to extend beyond the borders of the inflamed area; in short, should be a generous one. The material should be gradually stirred in boiling water, until of the proper consistency, and should usually be made fresh for each poultice, and not set aside to become caked and lumpy, as a poultice of this kind is very uncomfortable and irritating. The batter should be spread upon thick muslin, in a layer of one-half to three-fourths inch in thickness, a space of an inch or so being left at the edges. If the inflammation be very painful, a few drachms of laudanum may be sprinkled upon the poultice. The whole is now covered with a layer of cheese-cloth, and the free edges turned over and secured in such a way that the poultice material will not ooze out and soil the person and clothing of the patient. It should now be quickly applied, and covered with oiled muslin. Thus made and applied, a poultice forms a very neat application, but as ordinarily constructed, the patient and his clothing get besmeared in a very disagreeable

fashion. A very convenient plan, especially in bubo, is to have a number of muslin bags of the required size prepared, to be filled and applied as required. A poultice should be renewed sufficiently often to keep it hot, or no benefit can be expected. A convenient method of obviating the necessity of making a fresh poultice for each application, is to prepare a number, and keep them hot by means of the ordinary utensil for steaming bread. After a bubo has been opened, antiseptic poultices may be necessary, and in such an event, equal parts of charcoal and linseed meal, mixed with hot yeast instead of water, form the best material.

The next anti-suppurative measure worthy of attention is the internal administration of the calx sulphurata, or, as it has been erroneously termed, the "sulphide of calcium." The pure sulphide of calcium is not found in the drug market, nor has it ever been used therapeutically. Calx sulphurata, or the sulphurated lime, as described by the new pharmacopœia, is a mixture of the sulphate and sulphide of calcium in varying proportions, and containing not less than 36 per cent. of the latter in pure form. This drug has been highly lauded as an antissuppurative, and has been especially recommended in the treatment of bubo. Otis, in particular, has praised its action in this affection.

Although the drug has been greatly overrated by some, and unjustly condemned by others, I am of the opinion, derived from a considerable experience in its use, that it is a remedy of great value, and that it will produce several marked effects, varying with the character of the inflammation. Its action in the prevention of suppuration is similar to that of poultices, and like the latter, it will, unless the inflammatory changes have gone too far to permit of resolution, favor suppuration and hasten maturation. The rationale of its action is probably the same as that of moist heat, with the exception of the absence of the local sedation produced by the latter. It also, I think, acts by producing fatty degeneration of the inflammatory exudate, and thus relieving the circulation, or in a manner analogous to mercury. Unlike poultices, it will cause pus which is already fully formed in a circumscribed cavity to become absorbed, probably through this same fatty degeneration. The possibility of this is by many denied, but I have seen many instances of such action. One of these I

will cite, as especially striking. A pale, lymphatic female entered my ward in the hospital, suffering from a slight vaginitis, probably gonorrhœal, and presenting in the left groin a suppurating bubo, of a particularly chronic character, there being distinct fluctuation throughout, and no redness or induration about it. The tumor was as large as a good-sized hen's egg, and the skin covering it was so thin, that I expected it to burst spontaneously during the night after her admission. On the next day, I was about to incise it, but the woman was so anxious to avoid a scar, that I put her upon one-half gr. doses of the calx sulphurata every three hours and deferred the operation.

Much to my surprise, the pus entirely absorbed in less than a week. The dose of the drug should vary with the stage of the inflammation. Where it is desired to prevent suppuration, the dose should be from one-twelfth to one-tenth gr. every hour. When, however, the inflammation has so far advanced that suppuration is inevitable, the dose should be increased to about one-fourth to one-half gr. every three hours. In chronic and indolent bubo, and in cases in which unhealthily secreting surfaces or sinuses are left after incision or rupture of the abscess, the last-mentioned doses will often speedily bring about a healthy action, the surrounding induration rapidly disappearing, and the character of the pus changing from sanious or ichorous to a free laudable secretion, after which granulation is quite rapid. The great variance of opinion as to the effect of the calx sulphurata in inflammation is only explicable by the ignorance that prevails in respect to its proper use. Like moist heat, this drug, in proper doses, will produce beneficial effects at any stage, or in any variety of bubo. As much as has been said of the antissuppurative treatment of bubo, we are compelled to acknowledge that it is only effective in simple bubo, and that the virulent form must inevitably suppurate, but as our anti-suppurative measures may, under certain circumstances, also promote maturation, and will always limit the surrounding inflammation, they are always indicated. Again, it is not always possible to affirm that a bubo is virulent prior to suppuration. If, however, the primary lesion be an auto-inoculable chancroid, and the resulting bubo runs a very acute course, we

are warranted in assuming that it is virulent. After the bubo is opened, the diagnosis is, of course, quite easy.

The importance of constitutional measures in the management of bubo can scarcely be overrated, and may properly be alluded to in connection with the anti-suppurative treatment of the disease. As soon as bubo threatens, the derivative effect of free cathartics should be obtained, and throughout the course of the affection mild cathartics should be given, for reasons stated in connection with the subject of prophylaxis. If the patient be at all debilitated, tonics should be freely given, and if struma be evident, cod-liver oil and the syr. ferri iod. should be administered. As a rule, too much dependence is placed upon local measures, and too little attention given to the constitutional condition. How often do we see a chronic, indurated, open bubo heal in a short time under proper measures of constitutional treatment. There is one point with reference to the prevention of suppuration in bubo, which it may be well to mention. We will find a great many patients who object to any measures which are calculated to "scatter" the bubo, on the ground that such a plan "drives the poison into the blood," and we will also find that if we succeed in aborting the bubo, all subsequent eruptions of the skin, and perhaps other troubles, will be laid at our doors. Their objections are mainly to such measures as they can understand to be anti-suppurative, such as the application of counter-irritation and pressure. There might be some foundation for this popular notion, if it were possible to discuss a virulent bubo. When we find a patient of this kind, however, we should do our utmost to promote suppuration, hoping that the resulting scar will be sufficiently large and unsightly to give satisfaction.

The treatment of suppurating bubo is the next topic for consideration, and has been indicated to some extent in the discussion of the action of moist heat and calx sulphurata. When we find that suppuration is inevitable, which is always the case in virulent bubo, we should at once endeavor to promote the formation of pus by every means in our power. If poultices have not already been employed, we should at once apply them, in conjunction with hot fomentations. If calx sulphurata has already been used, we should now increase the dose to its maximum, which

should ordinarily be about one-fourth to one-half gr. every three hours. Larger doses may, however, be given. As soon as fluctuation is distinct, and the surrounding induration has in some measure disappeared; in short, as soon as the abscess is "ripe", it should be opened. An early opening is essential in virulent bubo, as we are very apt to have burrowing in this form. We have already seen that when a simple bubo is opened too early, the process of repair is apt to be very slow. There are exceptional instances in which other measures than incision are best in the treatment of suppurating bubo, but these are cases of the sub-acute or chronic form, which we will consider later on.

The manner of opening a suppurating bubo is of great importance. As a rule, the operation is only half done, a simple small incision being made, which is barely sufficient to give exit to the contained pus, and entirely inadequate to permit of the proper cleansing of the abscess cavity. If the bubo be virulent, troublesome and extensive burrowing is apt to occur. The only way to prevent this, is to lay open all sinuses and pockets thoroughly. As soon as the pus is evacuated, the abscess cavity should be washed out with a five per cent. solution of carbolic acid, or some other disinfectant solution, and if at all virulent in appearance, the pure carbolic acid should be thoroughly applied by means of a swab, and should be carried to the bottom of all sinuses and depressions. The edges should now be thoroughly cut away, if at all undermined, and the cavity converted into the shape of a saucer, as nearly as possible. The cut surfaces will require the pure carbolic acid to prevent infection. The peroxide of hydrogen, a substance which has recently come into great favor as an antiseptic, is useful as an application to both virulent bubo and chancroid, apparently destroying the specific properties of these lesions, and setting up healthy action in the most remarkable manner. It may, therefore, oftentimes answer the purpose of cauterization with more powerful irritants, or detergent and antiseptic substances. Not more than two or three applications are necessary, the sore taking on healthy action quite readily under this remedy.

When a bubo is of a simple inflammatory nature, which may usually be determined by the character of the pus, and the his-

tory and course of the inflammation, cauterization is unnecessary, and after having been thoroughly cleansed, the cavity should be packed with picked lint saturated in a 1-20 sol. of carbolic acid. If there be much surrounding induration, or if the flow of pus after the incision should be scanty, poultices should be applied. Virulent buboes should be packed with equal parts of boracic acid and iodoform, and a hot poultice applied over all. I much prefer the measures I have suggested, to the routine process of packing the abscess cavity with oakum and bals. Peru. In a few days, however, after the bubo has taken on healthy action, or if simple, and it requires gentle stimulation, the pure bals. Peru. may be applied on picked lint, not oakum. My preference is for the following formula, rather than the clear balsam:

Ry. Iodoformi..... $\bar{5}$ ii.
 Ac. boracici..... $\bar{5}$ ii.
 Bals. Peruviani..... $\bar{5}$ i.
 Vaselineæ ad..... $\bar{5}$ ii.
 M. Sig. Apply upon picked lint.

When an application of a more stimulating nature is required, the following will be found useful:

Ry. Argenti nitratis..... $\bar{9}$ i.
 Pulv. stramonii fol..... $\bar{5}$ ii.
 Ext. belladonnæ.....gr. v.
 Cerati simplicis ad..... $\bar{5}$ i.
 M. S. Apply.

The solid stick of silver may be required from time to time, as in ordinary processes of granulation. When a bubo is sluggish and secreting unhealthily, I have found a powder of equal parts of oxide of zinc and red cinchona bark to act remarkably well. The advantages of removing the edges of the bubo after incision, and converting it into a saucer-shaped cavity, are several. In the first place, it summarily disposes of the edges, which so frequently tend to invert, and almost invariably become indurated and thickened, thus preventing healing. 2d. It facilitates cleanliness, and enables us to make our applications to all parts of the cavity. 3rd. It prevents burrowing, and enables us to remove projecting glands with great facility, and also imparts to the bubo many of the characters of simple ulcers in other situations. 4th. It favors

rapid healing from the edges, as well as from the bottom, and leaves a much less puckered and discolored scar than when the edges are left. Of the various methods of evacuating a suppurating bubo without free incision, such as multiple puncture, aspiration, and Auspitz's method of breaking up the inflamed gland by means of a blunt probe introduced through a small incision, I will simply express the opinion that, as a rule, they must be followed by free incision, sooner or later, if the bubo be virulent, and with the probable result of finding that burrowing to a greater or less extent has occurred. It is, of course, desirable to avoid a scar if possible, and in simple bubo, this may sometimes be done, especially by aspiration, and the use of calx sulphurata, but, as a rule, the plan that I have mapped out will be found to yield the best results, and I have yet to see an evil result from it, in a large experience in the treatment of bubo. Opening buboes by caustics is very unsurgical, and not to be considered, for we may resort to local anæsthesia if the patient be nervous, and dreads the cutting. I have found the application of pure carbolic acid to answer this purpose very well, in lieu of the ether or rhigolene spray. In connection with the subject of suppurating bubo, I will take the opportunity of mentioning a method of treatment recommended by Kümmel.* This gentleman uses a dressing of a solution of the bichloride of mercury after the evacuation of a bubo. He extirpates the whole group of glands, as well as those affected. After the removal of the glands, the wound is dried with sponges, drainage tubes are introduced, and the wound sutured throughout its extent, save for a short space at the most dependent portion, which is left free for drainage. The wound is now covered with compresses of gauze saturated with the solution of the bichloride, or with small ash bags, the whole being covered by larger bags. Firm compression is next obtained by a roller bandage, and the dressing is then allowed to remain undisturbed for eight or ten days, at the end of which time it may be renewed, if necessary. The wound is kept quiet by short splints applied to the thigh and pelvis. When ulceration exists, all the infiltrated tissues are scooped away, and the cavity thus formed packed with sand wet with the bichloride solution, over which layers of gauze are applied.

* *Centralblatt für Chirurgie*, Dec 30, 1882.

If the discharge be free, the gauze is changed as required, and the sand again wet with the mercuric solution. Good results are claimed for this plan by Kümmel, and he states that if no ulceration has occurred, he obtains union by first intention, and where an ulcer has resulted, he claims that granulation is rapid, and suppuration slight. I have had no opportunity as yet to try this method, and am hardly prepared to express an opinion as to its merits, but as regards simplicity, I think that it hardly compares with the method which I have described. I should hardly be willing to suture the cut edges after the incision of a bubo, which may present no virulent characters when first opened, but which may subsequently assume the characters of chancroid, and perhaps burrow quite extensively. The open treatment is devoid of these dangers, especially if the edges be thoroughly removed. There are no foci for auto-infection in this plan, as are afforded by the suture tracks in the method of Kümmel.

The management of sinuses and exposed glands requires but little attention, or a few words, at least, will suffice for the consideration of the most valuable measures for their treatment. If a bubo be properly opened, and the undermined and degenerated tissue at its edges thoroughly removed, sinuses are not apt to form, but we will often meet with cases that have been improperly handled, in which sinuses of greater or less number and extent have resulted. When practicable, such sinuses should be thoroughly laid open, and the hard and indurated track cut away. They may sometimes be induced to heal by applications of the solid stick of the nitrate of silver, but they are quite liable to reopen, especially if the patient is cachectic, or moves about a great deal, as the tissue about them is of a very low grade of vitality. When too deep to be freely laid open, or when they are in dangerous proximity to important structures, they may often be induced to granulate from the bottom, by keeping them freely open with sponge tents, and stimulation with caustics. An excellent plan for deep sinuses is that often used for sinuses and fistulæ in other situations, viz: incision of the external opening, and the insertion of a wedge-shaped piece of wax, the base of which is gradually shaved off as the bottom of the cavity granulates. Injections of very hot water, frequently repeated, have also proved quite useful

in my own practice. I usually combine them with the use of pencils or tents of iodoform, and it is this plan which has afforded me the most favorable results. The tent is to be dipped in vaseline, and then inserted into the sinus, care being taken that its bottom is reached. It is then cut off level with the surface, and powdered iodoform and a compress applied over all. I have also used a mixture of iodoform and glycerine, $\frac{5}{ii}$ to the ounce, as an injection for sinuses and fistulæ in various situations, and have had excellent results.

The employment of sponge grafting would seem to offer promising results, reasoning from the success reported by those who have used this method for the treatment of ulcers and sinuses of various kinds not dependent upon bubo. The sponge is to be washed in a solution of dilute muriatic acid, and then carbolized with a solution of carbolic acid, 1-20. It should be packed tightly in the sinus, and covered with a compress saturated in carbolic acid. The subsequent discharge, which is usually quite free, is kept from accumulating by the free use of a carbolized solution similar to that used for saturating the sponge. In a short time, it is claimed, granulations will spring up, and the sinus rapidly heal. The method of sponge grafting is also applicable to the treatment of open bubo without sinuses, which may become sluggish and indolent. Sinuses will often take on a healthy action, and heal, under full doses of calx suppurata.

The management of exposed and hyperplastic glands ought to be sufficiently simple. When free glands are found on opening a bubo, they should at once be removed, for, if left, they will, as is well known, act as foreign bodies, and prolong the healing process indefinitely. In many cases, the fingers will suffice for their removal, but if not, Volkmann's spoon or Piffard's curette may be used, or they may be ligated with silver wire, and allowed to separate spontaneously. A plan sometimes used, and which I have myself practiced, is to destroy the glands by repeatedly boring them, so to speak, with a sharp point of pure nitrate of silver, but I will take the present opportunity of deprecating this practice, which is very tedious and painful. In some cases, the glands are not found to be free when the abscess is first opened, and in such instances they should be allowed to remain a few

days, until they become somewhat enlarged and distinctly outlined, at which time they are easily removed.

A very important point in the treatment of open bubo, is the question of constitutional syphilis. If a genital sore be of the mixed variety, the resulting bubo is quite likely to heal very slowly, if at all, unless a course of mercury is administered, and where the patient has had syphilis a certain length of time prior to the occurrence of the bubo, he will also require a full mercurial course. If the attack of syphilis be somewhat remote, or if the patient be greatly debilitated, and suffering from the syphilitic cachexia, an antisiphilitic course of mixed treatment on the one hand, or of small tonic doses of mercury upon the other, will be required. The necessity for antisiphilitic remedies in those rare instances of suppuration following purely syphilitic adenopathies, is too obvious to require more than a mere allusion. In the cases of syphilitic cachexia that I have mentioned, the administration of small tonic doses of the bichloride of mercury will often operate in a remarkable manner, a bubo which has run a very prolonged course healing quite rapidly, and the general health of the patient improving in a marked degree. This tonic action of mercury is hardly appreciated, I think, by the majority of even those who employ mercury quite extensively, in spite of the conclusive experiments of Keyes, and his remarkable results with the hæmatometer.

The treatment of bubo, complicated by gangrene or phagedena, does not differ from that of chancroid attended by the same complications. Much may be done to prevent these disagreeable and serious complications of bubo, by proper attention to the constitutional condition of the patient. If cachectic or debilitated, he should be put upon tonics and a highly nourishing diet at the outset. There is nothing better as a tonic under such circumstances, than the potassio-tartrate of iron, a remedy highly extolled by Ricord in the treatment of phagedena. As is well known, however, we occasionally meet with cases in which phagedena occurs without any evident cause, and in which we are compelled to recognize an innate predisposition to the affection.

When phagedena or gangrene attack a bubo, the first indication

is the thorough destruction of the diseased surfaces by cauterization. This should not be done in a feeble, halfway manner, or it will be ineffectual, or even injurious, and will require repetition. An anæsthetic should always be given, if the diseased surface is at all extensive, or the work is not apt to be thoroughly done. The caustic used is greatly a matter of choice, providing one be used which is sufficiently powerful to destroy the tissues for the required extent. The Paquelin thermo-cautery, pure bromine, or Ricord's paste, may be used, but I think that the bromine will prove the most satisfactory. After the operation, an antiseptic poultice should be applied, and morphia freely given to alleviate the pain, which is sometimes considerable. When the carbo-sulphuric paste is used, the patient should be kept well under the influence of opium during its application. Opium has been said to have in itself a somewhat specific action in checking phagedena, aside from its mere narcotic effect.

When it is not practicable to cauterize the surfaces, iodoform, carbolic acid, the peroxide of hydrogen, and the potassio-tartrate of iron in a solution of gr. xl. ad 5s. have each their advocates as local applications. My own preference is for the peroxide of hydrogen, followed by close packing of the cavity with pure iodoform or boracic acid.

Some cases of phagedena, notably the serpiginous form, will progress with greater or less rapidity, in spite of the very best treatment, and others, after the phagedena has been checked and the sore is very nearly healed, will suddenly take on phagedenic action. Simple bubo may do the same thing, in rare instances. I recall one case occurring in the ward of my friend, Dr. Frank W. Merriam, then house-surgeon at the Charity Hospital, in which the bubo was apparently nearly closed, and was granulating finely, when gangrenous phagedena set in, and extended over nearly half the abdomen, before it could be checked. By free stimulation and a nourishing diet, with the local application of the carbo-sulphuric paste, the process was finally stopped, but not until the external oblique muscle had been destroyed for quite a space, and even the next layer of muscles attacked. This case was primarily one of virulent bubo, but had not been phagedenic,

and at the time the phagedena set in was practically a simple bubo in process of granulation.

Vidal claims to have used the pyrogallic acid in the treatment of phagedena with considerable success.* It is claimed to destroy the auto-inoculability of the sore, and to bring about a healthy action in a remarkable manner. It may be used either as an ointment composed of one part of the acid to two of vaseline, to be applied by the surgeon, or as a powder composed of one part of the acid to four of starch, which the patient may apply himself. The pyrogallic acid gives a blackish color to the part, which is of no special signification. I have not yet had the opportunity of trying this treatment in phagedenic bubo, but have used it in several cases of simple and phagedenic chancroid, with good effect.

Chronic and indolent bubo, whether with or without the formation of pus, is usually found in persons of a strumous diathesis, or those who are debilitated or cachectic from some cause. Where suppuration occurs in such cases, the bubo may run an ordinary acute or subacute course, but after the evacuation of the pus, it takes on the characters of a chronic and indolent ulcer. Phagedenic bubo is apt to become chronic, and last indefinitely.

The chief measures of treatment in chronic and indolent bubo, occurring in scrofulous or cachectic subjects, consist in the administration of such remedies as the iodide of iron, cod-liver oil, arsenic, iodoform, or, in short, any of the remedies of known anti-strumous power, as well as such ordinary tonics as quinia, or the mineral acids. A liberal diet, of which milk and cream should form the principal ingredients, and improved hygiene, are usually called for. It is in just such cases as those at present under consideration, that the sulphurated lime will yield the most brilliant results; no better, however, than in strumous affections of other varieties. The maximum dose should be given. As illustrated by a case which I have already cited, absorption of pus may be brought about by this drug, after it has fully formed, and in considerable amount. If the bubo goes on to suppuration in these chronic cases, aspiration may be used in conjunction with the sulphurated lime, and in this way a cure may sometimes be

* *Journal de Médecine et de Chirurgie.*

effected without the necessity of producing a scar by a free incision.

Chronic bubo may remain hard and indolent for a long time, before pus forms, and various local measures are sometimes useful in bringing about resolution without suppuration. The different methods of counter-irritation and pressure already described have numerous advocates. I have mentioned the method of punctate cauterization, in connection with acute bubo, as applicable to the treatment of the form at present under consideration. The modification of this method which appears to me most effectual, consists in drawing a series of intersecting lines over the surface of the tumor with the Paquelin cautery, in the manner often used in inflamed joints. Although not very painful, this method is usually objected to by the patient. Erichsen has found the discutient method of Malplaquet to be very serviceable in chronic and indolent bubo. This consists in the application of a blister of the size of a half-crown to the surface of the enlarged gland, and subsequently dressing the raw surface with lint soaked in a saturated solution of the bichloride of mercury. At the end of two or three hours, a white eschar will have formed, and the lint is then to be removed, and cold dressings applied. Simple blisters are useful also in chronic bubo. They should be repeated sufficiently often to keep the surface raw, and a dressing of the oleate of mercury or blue ointment kept constantly applied. An ointment of equal parts of the oleate of mercury and compound iodine ointment is often effectual in producing resolution without the previous application of a blister. Injections of arsenic have been found useful in strumous and other glandular enlargements in other situations, and would consequently be worthy of trial in chronic bubo.

There is one form of chronic bubo which merits especial attention. This is the variety which accompanies the form of chronic chancroid termed "lupus of the vulva," or in the male, chronic phagedena. This form of bubo is identical in its general characters with the lesion of the genitals, and presents an elevated, hyperplastic mass of tissue of greater or less extent, with an unhealthy pultaceous or worm-eaten appearance of its surface, which secretes an unhealthy, ichorous fluid. The disease extends very

slowly, if at all, after having attained a certain size, the ulceration having meanwhile become continuous in many cases with the genital ulcer. There are apt to be several of the buboes, either distinct, or connected by ulceration. Such cases are very apt to be of a hæmorrhagic nature when they occur in pregnant females. Cases of this severe form of chronic bubo are probably never seen in private practice, but are found only in broken-down hospital cases. They will often defy the best measures of treatment, and finally wear the patient out.

When this form of bubo refuses to yield to the ordinary local treatment and the usual routine system of tonics and dietetics, the occasional application of the actual cautery will sometimes excite a healthy action, with active granulation and repair. As a dressing, iodoform is probably the best substance. An infusion of cinchona bark may also be of service, a piece of lint being saturated with it and laid upon the part, to be subsequently wet sufficiently often to keep it moist. Bumstead recommends the pure persulphate of iron in these cases. Judging from my own experience, the management of the affection is anything but satisfactory.

125 State St., Chicago, March 10, 1883.

MORTALITY OF THE GLOBE.

The *Gazetta Medica*, of Petersburg, makes a curious calculation on the mortality of the terrestrial globe. Europe contains 309,000,000 of inhabitants, Asia 804,000,000, Africa 199,000,000, America 85,000,000 and Australia 4,500,000: total, 1,451,500,000. Taking, as a basis, the average mortality of France, comparatively a moderate proportion, on account of the good hygienic and climatological conditions of that country, there occur annually 35,692,835 deaths in all the terrestrial globe, or 97,790 per day. The number of births are 70 per minute, and 104,800 per day.

Society Reports.

ARTICLE VI.

CHICAGO MEDICAL SOCIETY.

The society held its semi-monthly meeting March 19, 1883, with a very large attendance, Dr. J. H. Hollister, President, in the chair.

Drs. F. S. Tabor; A. R. Reynolds; T. A. Stanley; E. W. Andrews; A. Goldspoon; J. E. Best and F. E. Wadhams were duly elected to full membership.

Dr. N. S. Davis read the paper for the evening, on the subject of acute pneumonia, or lung fever.

During 1882, 782 deaths occurred in Chicago from pneumonia; 42 from broncho-pneumonia; 20 from pleuro-pneumonia; and of this number (844) 122 died in January, 1882. The census reports show that in Boston 681 died from pneumonia in 1882, and that in San Francisco 527 died from pneumonia in the same year. The deaths from pneumonia in New Orleans in 1882 were 203. In San Francisco, the Mongolian race died in the proportion of two to one of the Caucasian race, and in New Orleans, three colored persons to one white died of the disease—accounted for, in a great measure, by unsanitary conditions of the Chinese and colored races. Another destroying agent was the evil effects of alcoholic drinks that those races were addicted to, which increased the death rate.

Dr. Davis then recited a typical case of pneumonia, which resulted in the death of a girl æt. fourteen, giving the minute symptoms in detail, which were interesting and curious, as the brain and pleuritic complications were present, and rapidly re-

sulted in death in five days. Another curious case, with prominent brain symptoms, occurred in a girl older than the case just cited. In this case, endo-carditis set in, and she died in five days, with general convulsions. In these two cases, he questioned whether the pneumonia was not the result of the cerebral symptoms, that occurred first by a partial paralyzing of the phrenic nerve, to bring on these sudden changes.

Sources of danger in pneumonia.—The first is in the stage of congestion. This may gradually smother the patient. He cited two cases of this, but it rarely results fatally. A second danger is from hepatization of the lung, which is the result of depletion of blood, and its being solidified in the lung; it is depleted from the circulation. A third critical period is when suppurative degeneration has supervened—this gradually, day by day, exhausts patients. The fourth danger is from rapid reflex changes which may occur, such as “spotted fever.” These erratic symptoms may appear almost epidemically at certain periods or places. Of the remedies, venesection is really the best, and will ease patients if done just before the stage of engorgement or solidification sets in; then follow this with proper remedies to keep the patient relieved, and to favor resolution.

If hepatization has set in before we have seen the patient, do not give alcoholic stimulants, but give good strong tea and coffee, (or theine and caffeine) also give chlorate of potash in gum arabic pue ‘uoiqnos [pues doses of quinine, strychnine, camphor or carbonate of ammonia, and the mineral acids.

In the suppurative stage, we should keep up nutrition as best we can, by supporting the patient’s strength with tonics and good nourishment.

DISCUSSION.

Dr. R. C. Hamill said that far more pneumonia prevailed in the hilly counties of Indiana than in this city. The lancet was the remedy used fifty years ago, and it was successful then. Within a few days he had had a singular case, which apparently was much improved, and yet died in fifteen minutes after the doctor left. The man died, he thought, from embolism as a complication of the pneumonia.

Dr. G. H. Randall asked Dr. Davis if it was not possible that quinine or opium might cut short the congestive stage of pneumonia, the same as blood-letting would?

Dr. H. A. Johnson thought it probable that the death rate varied in different years; the statistics varied in this. Regarding the peculiar phases of the disease, he could hardly add anything to that which had already been stated in the paper. When hepatization occurs, the process occupies days, and the abstraction, therefore, is gradual, and two or three lbs. at most from hepatization, equal to 16 oz. of blood suddenly taken by bleeding a patient. The continued doses of alcohol in large quantities he thought seemingly resulted favorably in these cases of cardiac asthenia, or in the extreme prostration of pneumonia. He endorsed venesection in the early stages of the disease.

Dr. C. T. Fenn recited a case of a boy, æt. fourteen, who died of pneumonia, who had no symptoms of the disease except the sputum that was expectorated. He died on the twenty-second day of his sickness, while taking a dose of medicine, and he died suddenly.

Dr. A. J. Avery had used carbonate of ammonia with a great degree of satisfaction, in cases where the patients had appeared almost at death's door.

Dr. J. H. Hollister thought that in malarial districts, if a person took pneumonia, the disease is more fatal in a given number of cases, than in healthy districts.

Dr. Davis answered Dr. Randall's question, by saying he had tried giving quinine and opium at the onset of the disease; it was well to do so in some cases, but he mentioned two cases where he had first given these remedies, and afterward had to bleed the patients before relief was afforded.

REPORT OF THE COMMITTEE ON BANQUET.

Dr. D. R. Brower, of the committee, wished instructions from the society as to how much money should be expended?

Dr. Davis wanted to know if they were to come together to feast simply, as he did not favor wine.

A vote, taken to ascertain those in favor of a banquet, to be paid for from the society's fund, was lost.

Another vote, taken of those in favor of a banquet, providing 100 were guaranteed, and \$2.00 a plate charged, each paying from his own pocket, was carried.

Dr. C. T. Fenn wished to know the object of the banquet. Was it to become acquainted with each other, and have a social time? if so, he was in favor of it; he himself was not acquainted with fifteen members of the society.

Dr. Avery asked if members could invite their wives to the banquet, and was answered that it would be proper to bring them, as this was done in the National Medical Association banquets. It was upon vote decided that the wives or any friend of the members might be invited, and ladies would be cordially welcome to this banquet, the first ever having been held by the society.

The following members signified their intention of attending the banquet to be held here, at the Grand Pacific Hotel, at the annual meeting, April 2:

A. H. Tagert; E. Bert; W. Blanchard; C. T. Fenn; H. A. Johnson; J. H. Chew; S. J. Avery; R. C. Hamill; E. G. R. Trimble; L. T. Potter; A. H. Cooke and wife; J. F. Todd; N. S. Davis and wife; D. M. Tucker; R. L. Leonard and one other; J. H. Bates and two others; E. Ingals; W. H. Curtis; J. H. Hollister and wife; L. H. Montgomery and wife; J. E. Walton; A. J. Coey; L. J. Loescher.

A communication from the corresponding secretary of the Illinois Microscopical Society to this society was read, inviting this society to join with them in tendering to the American Society of Microscopists a welcome when they hold their annual meeting in this city next August, and for the President to appoint a committee of one or more to act with their committee of arrangements.

Dr. E. Ingals moved that the communication be received and adopted, and that the President appoint the committee when convenient for him to do so.

Dr. W. H. Curtis moved that a committee of five on nomination be appointed to nominate officers for the coming year.

Dr. S. J. Avery moved that the meeting be at 7 o'clock (annual meeting); seconded by Dr. Davis. The business meeting for April 2 will be held at 7 P. M.

The committee of five on nominations consisted of Drs. J. H. Hollister; E. Ingals; N. S. Davis; W. H. Curtis; H. A. Johnson.

The society then adjourned.

L. H. MONTGOMERY, *Secretary*.

The Chicago Medical Society held the Thirty-third Annual Meeting, April 2, 1883, with Dr. J. H. Hollister in the President's chair and Dr. L. H. Montgomery at the Secretary's desk. There was a very large percentage of members present.

Dr. F. E. Waxham read a paper on the "Prevention of Contagious Diseases" and "Our Hospital Accommodations for Children." He held that there is a wide field for earnest labor in the prevention of contagious diseases; children of all classes, conditions and localities are subject to them. The unnecessary and avoidable waste of life due to this cause is great indeed, and, by the systematic use of disinfectants, antiseptics and isolation, we certainly possess the means of controlling these maladies, the same as by vaccination in preventing small-pox; although for scarlet fever and other contagious diseases we have, as yet, no specific preventive; but by the above means and carbolic oil, or carbolic vaseline, applied direct to their little bodies, we ought to control these diseases, and much can be gained by the use of a five per cent. solution of carbolic acid with the hand or steam atomizer; and, to be effectual, it should be used as often as every two or three hours in the room and about the bed of the patient. Measles and scarlet fever can thus be prevented from spreading, and for whooping-cough isolation is the most important measure. Cases and illustrations under the writer's care were given to substantiate these facts. Among the poorer class of tenants, who are overcrowded, contagious diseases occur with the greatest frequency, and are most severe and fatal. It is for this class especially in behalf of which the paper was written, and two methods are practicable to protect them, viz.: Either by the erection of hospitals for the sick, or asylums for the well, as the exposure incident to the removal of a child suffering from scarlet fever, measles, or diphtheria may be such as to induce a

fatal result. If a hospital or asylum were erected here exclusively for children, hundreds of lives might be saved annually. In this city, which has become a great medical center, with our magnificent hospitals, the little children have been overlooked. This is not so in New York and some other of the Eastern cities. Forty-five thousand children are treated annually in the hospitals of New York City. The Thomas Wilson Sanitarium for children has been founded at a cost of \$500,000 in Baltimore, and with all the wealth and generosity of Chicago, but a single hospital exclusively for children may be found—the Maurice Porter Hospital of the North Side, containing twelve beds. The Home for the Friendless and Foundlings' Home have ward accommodations simply for the inmates, and are not accessible to outside patients. How different, if there existed here a complete and exclusive hospital for children, with wards for the different diseases of which they may become afflicted! Besides, it would be a refuge for the unexposed. The little hospital of the North Side mentioned in the paper is inadequate to the demands and needs of this great city. Here is an opportunity for the philanthropist to make his name immortal, or for the Chicago Medical Society's influence—inducing legislation, donations and bequests. It is the proper body to interest itself, and soon we would see hospital accommodations for the little children worthy the enterprise, wealth and generosity of Chicago.

The author moved, therefore, that a committee of three be appointed to agitate this subject. Carried; to be appointed at a future meeting.

The annual report of the Secretary was read, which, in brief, summarized, is as follows: During the year twenty meetings for scientific purposes have been held; 450 members attended nineteen of the meetings and 120 visitors, being a total of 570, or an average of thirty persons. The Society admitted thirty-four physicians into full membership; the accurate and corrected membership list now is 210. Postal card announcements sent out for each meeting were 200, or about 4,200 for the entire year. The list of papers presented during the year with authors was thirty-eight, many of them being of unusual interest

learned and comprehensive. No deaths occurred and four marriages, which is probably the best part of this report.

The report closed with the following suggestions for future consideration :

First. That regarding the amendment to the constitution proposed at the second preceding meeting (by myself), wherein provision for a second Vice-president should be made, for the reason set forth at the time it was offered.

Second. That no member be permitted to present more than two new candidates during a year.

Third. That a Publication Committee, consisting of three members, be appointed by the President, and a given number of copies of our constitution and by-laws be published in pamphlet form, with the list of membership and other information contained, to supply each member with a copy.

Fourth. That a "Professional Insurance" be established for beneficiary purposes out of the funds in the treasury. We then have the double advantage and honor of belonging to a medical society the peer of any west of New York, as well as this relief fund, at a mere nominal outlay for a member's death.

In closing, the report stated that never had the Society been in so prosperous a condition, and for this result much honor was due the worthy President.

Dr. E. Ingals moved that the Secretary's report be received and adopted. Carried unanimously. And that a committee of three be appointed to consider it. Also carried, resulting in Dr. E. Ingals, Dr. D. W. Graham and Dr. R. G. Bogue constituting the committee.

The Treasurer, Dr. E. F. Ingals, presented his report for the fiscal year to date:

Dr.		
April 13, 1882, to amount in Treasury,	\$339 07	
" 13 to July 1, 1882, Collections,	25 00	
July 1st to January 2, 1883, Collections	83 00	
January 2, 1883 to April 2, 1883, Collections,	230 00	
Cr.		
April 13th to July 1, 1882, by bills paid,	\$677 07	\$ 68 50
July 1st to January 2, 1883, by bills paid,		24 25
January 2d to April 2, 1883, by bills paid,		36 50
		\$129 25
Leaving a balance of \$547.82 in the treasury.		

Dr. E. Ingals moved that the treasurer's report be received, and that an auditing committee be appointed consisting of two. Carried, resulting in Dr. C. T. Fenn and the Secretary elect being appointed.

The committee on nominations reported for the current year, as follows: For President, Dr. D. W. Graham; Vice-President, Dr. R. N. Isham; Secretary, Dr. L. H. Montgomery; Treasurer, Dr. E. F. Ingals.

Dr. T. W. Miller thought other nominations should be made, as we probably would have a second Vice-President. It was so ordered, and upon balloting a number of times, the following officers were elected for the coming year: Dr. D. W. Graham, President; Dr. R. G. Bogue, first Vice-President; Dr. R. Park, second Vice-President; Dr. L. H. Montgomery, Secretary; Dr. E. F. Ingals, Treasurer. Doctors G. C. Paoli, C. T. Fenn and D. R. Brower to constitute the Committee on Membership and miscellaneous business.

Dr. Hollister, the retiring President, made some happy remarks, and dwelt upon the future for us. He appointed Dr. E. F. Ingals to escort the newly elected President to the chair. Dr. Graham, upon accepting the Presidency, thanked those present for this honor.

Dr. Paoli moved that the retiring President receive a vote of thanks for the impartial manner and efficient services rendered. Unanimously carried.

Dr. E. Ingals moved that \$50.00 be presented to Mr. Drake for courtesy in using the parlors of the Grand Pacific hotel. Carried unanimously.

Dr. E. Ingals also moved that the Secretary, Dr. L. H. Montgomery be presented, as an honorarium or testimonial for services, the sum of \$25.00. Carried unanimously.

The society then adjourned.

L. H. M.

At a called meeting of the Ogle County Medical Society, held in the city of Oregon, March 7th, 1883, the following preamble and resolutions were unanimously adopted :

WHEREAS, The Ogle County Medical Society is again called upon to register the loss of one of its oldest and most honored members, by the death of Dr. Elias S. Potter ; the physicians of Ogle county lose a worthy colleague who has labored and dwelt among us for more than forty years. He made his home in the city of Oregon in 1844, and acquired a very large practice, enjoying the love and confidence of his patients and friends as a most estimable man. In the midst of his professional duties, and in the very act of visiting the sick, he was called suddenly away. The Ogle County Medical Society give voice to the unanimous sentiment of the profession in the expression of their sorrow at the sudden demise of Dr. Potter and their deep sympathy with the bereaved family ; therefore,

Resolved, That in the death of Dr. Potter the medical profession of Ogle County has lost one of its most honorable, upright and most respected brothers, whose judgment, kindness and genuine congeniality we have always esteemed and admired.

Resolved, That we sincerely mourn and deplore the loss of our brother whose gentlemanly conduct, generosity of heart, and professional ability were the characteristics of his life.

Resolved, That in the labor and character of our brother, we have an example of industry, manliness and usefulness, in a high degree worthy and commendable our imitation.

Resolved, That we tender the bereaved family of the deceased our heart-felt sympathy and condolence in this, their sad bereavement and affliction.

Resolved, That a copy of these resolutions of respect and condolence be sent to the family, also to the Ogle County papers for publication, and to the *Chicago Medical Journal and Examiner*.

DRS. H. A. MIX, L. C. HORMELL, } Committee.
L. S. HALL, W. T. SPEAKER, }

Reviews and Book Notices.

ARTICLE VII.—A PRACTICAL TREATISE ON DISEASES OF THE SKIN. By JAMES NEVINS HYDE, A.M., M.D. Philadelphia: Henry C. Lea's Son & Co. 1883.

The earliest record of any skin disease that we can find seems to be in the description of leprosy in the Old Testament, Leviticus 13 and 14, where the disease is described with some minuteness as to its characteristics and diagnosis, with instructions as to the purification and separation of those afflicted, though the cure was apparently as impossible, in those early times, as at the present.

In the writings of Hippocrates, also, dating back at least twenty-two hundred years, may be found descriptions of several forms of skin diseases, described with accuracy, and, according to the accounts, successfully treated.

From those old days to the present, to what varieties of treatment have these diseases been subjected, influenced by the thousand and one ever varying theories of the cause of disease, the solidism of one century and the humoralism of another!

Within the last thirty years, however, the advance in the study and treatment of skin diseases has been most marked, fully keeping up with what has been done in other departments of medical science. Without wishing to depreciate what has been done by the English and French schools, it is safe to say that the profession is indebted to Hebra, of Vienna, more than to any one else, for bringing our knowledge up to some definiteness and certainty. Beginning, like a true German skeptic, by not accepting any of the older theories and practice till he had subjected them to the test of his own experience, he began by investigations

de novo, and from the almost unlimited amount of material at his disposal in the hospitals of Vienna, brought the science of dermatology to a higher plane than it had ever reached before. Thousands of pupils have been attracted to Vienna, to sit at the feet of the great master, and the strong impetus given to the study of skin diseases has shown itself in the increased number of observers all over the world.

It is to give to the profession at large the benefit of what these workers have accomplished, and to show what has been done up to the present time, that this work has been undertaken, and most admirably has it accomplished its object. In this book the practitioner, busy or otherwise, may find what we really know about skin diseases up to this year of our Lord 1883, and withal submitted to the judgment of a man of study and experience in this department of medical science.

While there is no branch of medical study which is so impossible to learn from books alone as dermatology, yet the student who wishes to correct and confirm his observations of skin diseases; to supplement and arrange what he has learned from the actual observation of cases, will find no better guide than the present volume.

If we were to instance any chapters which seem to us particularly good, we should mention that on eczema. In that, as, in fact, all through the book, is taught the great lesson, to which sufficient prominence has never, we think, been given in works on general or special practice, that the successful practitioner must treat, not the disease, as a disease, but the patient as he stands before him. He must prescribe for the wants of just that particular individual who consults him, taking into consideration what his ancestors gave him, and what his present condition is as to habits, employments, and all his surroundings.

This same remark would apply to the chapter on acne, a skin disease, in the proper treatment of which the skin is about the last thing to take into consideration. Acne is a disease of defective innervation, and whatever has produced this influence on the nerves is the main thing to be treated, all other treatment being only slightly adjuvant.

In the chapters on syphilis will be found a good *résumé* of

the existing state of knowledge on this interesting subject, and the directions for treatment are judicious and comprehensive. The importance of attending to the general health; of out-door exercise; generous diet; iron and proper tonics, as well as the routine mercurial treatment, is very properly insisted on.

On the whole, the work seems to us to be a clear and concise statement of what the profession wants to know, and it will prove a most valuable guide to the thousand students who annually go out from Chicago, to make their professional career in the great Northwest.

C. G. S.

ARTICLE VIII. CONTRIBUTIONS TO ORTHOPEDIC SURGERY.

Including Observations on the Treatment of the Hip, Knee and Ankle Joints by a New and Simple Method of Extension. And Lectures on Club Foot, by Jas. C. Hutchinson, M. D. New York. G. P. Putnam's Sons.

The author states at the outset that all the morbid conditions of the joints are, as a rule, essentially chronic, and characterizes attempts to describe the symptoms indicating distinct pathological states of the individual structures of the joints as mere pathological refinement. He abandons all apparatus in coxalgia except the crutch and elevated shoe on the unaffected side. Extension is secured by the weight of the limb. He maintains that sufficient immobility is secured by the reflex contraction of the periarticular muscles.

In the treatment of knee-joint disease, the author uses the same plan with the addition of compression by a splint consisting of seven layers of shellaced muslin, which is laid upon the knee while extended.

In the diseased ankle joint a plaster splint is recommended, applied during extension, and renewed from time to time while using the elevated shoe and crutches. The author claims this treatment to possess advantages over that commonly employed in the management of chronic inflammation of the joints of the lower extremities. In that the surgeon is saved the trouble and annoyance of applying and carefully watching the instruments in ordinary use to see that proper extension is kept up, and undue

pressure prevented, while the patient's comfort is greatly promoted by dispensing with adhesive plasters, which irritate the skin, and require removal from time to time, and by discarding the perineal band in hip disease. The spasmodic contraction of the periarticular muscles is overcome by the gentle physiological extension produced by the weight of the limb for several hours each day, while forcible extension by weight and pulley irritates the muscles to resistance and contraction, which must be overcome by main force.

The inexpensiveness of the apparatus, which is easy of construction by any ordinary mechanic, is a matter of no small importance.

In the five succeeding lectures on club foot, the author, after a short historical sketch of the rise and progress of orthopedic surgery, takes up each of the four varieties of talipes and their four compound forms in anatomical and surgical detail.

While there is nothing particularly new, yet all the information necessary to the subject is developed in attractive and compact form.

W. L. D.

ARTICLE IX.—VARIOLA. A series of Twenty-one Heliotype Plates, Illustrating the Progressive Stages of the Eruption. Boston: Samuel A. Powers, 1882. Price \$3.00

This is a book of beautiful plates, made and arranged under the direction of Mr. Samuel A. Powers, Superintendent of the Small-pox Hospital, Boston.

The plates represent the appearance of Variola at the different stages of the eruption. The first sixteen pictures show its appearance on the same patient from the third to the fourteenth day, when it began to disappear. The remaining six pictures were taken from different patients in same hospital to show some special feature in the disease.

The book will help out the work of diagnosis in many cases.

Mr. David F. Hicks, of Hyde Park, Ills., is the agent for its sale.

D. R. B.

ARTICLE X.—A TREATISE ON DIPHTHERIA AND CROUP.

By Charles J. Lewis, M. D., Alumnus of Rush Medical College, etc., Chicago. Published by Clark & Edwards, 1883. Price \$1.00.

This is an admirable little monograph, full of practical suggestion for the management of these formidable diseases, according to the author's pathology, best expressed by the following extracts from his preface: "Having felt for several years the pressing need of establishing a close relation between a generally successful treatment of diphtheria and croup with antiphlogistics and eliminants, and a theory of the nature of these diseases that was consistent with such management, is my plea for bringing out this treatise.

"M. Bretonneau regarded diphtheria as an inflammatory disease, and treated it as such. His views of the essential nature of the disease were correct; but his methods of cure are so crude, so inadequate, in not giving due prominence to eliminants, that his antiphlogistic treatment was, before his death, abandoned as a failure. This failure would not have been attained had he selected anti-inflammatory and eliminatory drugs, with due regard to their physical action. I have given due prominence to the action of both these classes of medicines. I am not conscious of a diphtheria and croup poison—a contagium vivum—hence, the claim of contagion and of germ origin, is unproven."

The method of treatment proposed is ingenious, plausible, and we have reason to believe, has been, in the Doctor's hands, very successful.

We take pleasure in commending the book to the favorable attention of physicians.

D. R. B.

THE will of Sir Thomas Watson has been proved. The personality alone amounts to more than £164,000. A modest fortune for a life of distinguished professional services.

Editorial.

STATE AND INTER-STATE MEDICINE.

IN our issue of last month, we published the interesting address of Prof. Moses Gunn, of Rush Medical College, delivered at the late Commencement exercises of that institution. Our readers have already enjoyed the opportunity of perusing its pages, which set forth in the clearest and most comprehensive manner the ethical questions which have lately been engaging the attention of medical men. It is unnecessary to go over again the ground there transversed. This exposition of the views of a veteran instructor and practitioner, holding, on the one hand, the conservative opinions on the subject of the code entertained for a generation by the best representatives of regular medicine in the country, and, on the other, acknowledging that respect for and deference to the existing laws of the State which are the requisites of all good citizenship, has already attracted the attention it merits.

The prominence, however, thus given to the *status* and functions of the Illinois State Board of Health, has suggested a view of the results of its operations which is not without further interest. We remark, in passing, that we entertain for the gentlemen composing this honorable body, no less respect than that distinctly expressed by the distinguished author of the address to which we have referred.

It is claimed by them, and we doubt not justly, that in consequence of their organization and operations, a large number of irregular practitioners have been driven beyond the borders of this State. We do not understand that it is claimed that all such have been thus removed, for even a superficial examination of the daily papers of this city discloses the advertisements of a number of such irregular practitioners, some of whom, we under-

stand, have begun their profitable business in this line, since the passage of the law which, by its provisions, released from its penalties all those who by ten years of irregular practice had secured exemption.

Granting, however, that the operation of the law and the activities of the Board have driven beyond the borders of this State a horde of irregular practitioners, the questions naturally arise, where are they now and what are they doing? If all of the several States of the Union had similar Health Boards with powers equal to those conferred on the Illinois body, the grand result might be that of the equal operation of a national law, affecting all the States of the Union to the same extent. As the matter stands at present, it is well known that there are many States of the Union not provided with Boards of Health. If there are those who wish to know whether quackery and charlatanism are prevalent in such political divisions of the country, their desire may be readily satisfied. We refer any enquirers on this point to the late address of the President of the Missouri State Medical Society, whose revelations were made the theme of some very pertinent editorial comments in a recent number of the *N. Y. Medical Record*. A reference to the original pages of this address, however, will demonstrate clearly that even extravagant language would fail to properly characterize the abject ignorance, the depravity and even the villainy of the impostors who have settled upon the unfortunate people of the State of Missouri in a swarm worse than that of the traditional Egyptian locusts. This may prove a startling and fearful exception to the rule, but it certainly suggests to the liberal-minded to ask to what extent the unequal operation of law is working a serious injury to some parties of this country. However much the present tariff may be claimed as a strictly American system of protection, it is firmly established that free-trade is to be the rule forever in at least all commerce between the States. The necessity for the equal operation of law upon all citizens in all districts is nowhere better recognized than in Illinois, which, by statute, has prohibited special legislation for its own citizens. That which is good and useful for one part of the country should not be less desirable for all others.

If the operation of State laws of the kind to which we refer is really working an injury to our sister States, one naturally inquires, what is the remedy? If it be responded, the several States should protect themselves by organizing their own Board of Health, the improbability, not to say impossibility, of the passage of laws with exactly similar provisions for regulating practice in so many differently organized political divisions of the country, becomes at once apparent. Shall we, in despair of such an issue, proceed at once to destroy the effectiveness of our own law, with a magnanimity and unselfishness unequalled save in the pages of the *Light of Asia*? Surely there is a broader view to be taken of the whole matter.

What has been actually attempted and accomplished is admittedly imperfect in result, limited as to scope, unequal in action and open in many respects to adverse criticism. With such limited powers as it possessed, we are willing to admit that the Illinois Board entered upon its task with enthusiasm and devoted itself to its work with energy. But the need for something better and broader is apparent. Either the national congress must pass such general laws for the regulation of the practice of medicine in the United States as shall operate equally in all parts of the country, or its regularly educated physicians must take steps to protect themselves. As a rule they have fared badly when they have asked protection of politicians, law-makers and legislators. Their best and broadest results have been accomplished either in the absence of all laws specially affecting them or in face of the worst. Their best representatives have constituted a body of men the peers of the profession in any country of the world where the most stringent regulations limit admission to their ranks and govern all who are admitted. Their worst representatives are not the fruit but the by-products of their best efforts.

After all, the system is part and parcel of one huge crudity of magnificent resources and inferior methods. This is a country whose laws are so defective that it is actually possible for a contingency to arise in which there would be a doubt as to who is the chief magistrate of the nation. Can any wonder, then, that there are gross irregularities in all legislation relating to the practice of medicine?

Translations from Foreign Exchanges.

BY A. LAGORIO, M. D.

DERMOID CYST OF THE OVARY, OPEN BY SUPPURATION THROUGH THE ABDOMINAL WALL.—CURE.

The following case is reported by Dr. A. Turretta, of Trapani: Mrs. E. L., aged 27, menstruated at 15, had three children with normal pregnancies. During the last pregnancy noticed, the abdomen, greater than previous times, had a conoid form protruding forward. After labor, the abdomen remained more voluminous than ordinary, and since then menstruation ceased. When admitted to the hospital she was pale, amaciated and had an extremely suffering aspect, with dyspnoea. The circumference of the abdomen around the umbilicus was 84 centim.; four inches below, 92 centim. The pubo-umbilical distance, 95 cent.; umbilico-xiphoideal, 16 cent. Skin is distended and red. Palpation is tender and painful in the portion of the abdomen below the umbilicus. The hand reveals an exaggerated heat, with an elastic softness, and a sensation of a superficial abscess. Vagina normal, the neck of the uterus slightly flexed to the right. An incision 4 cent. long was made 8 cent. below the umbilicus, and with an impetus was discharged about six liters of a purulent, viscous liquid of a specific gravity of 1,017, rich in purulent corpuscles and cholesterin crystals. The cavity was washed with carbolyzed water, and a large drainage tube placed in position. After 27 days, there was some elevation of the temperature, with rigors which were repeated the following day; the secretions changed in color and odor in such a manner as to arouse the suspicion of ichorhæmia. The wound and cavity were immediately

washed with a solution of pernanganate of potassa, and large doses of quinine administered internally. The rigors ceased, and in a week the temperature became normal, and the patient quickly improved. The uterus remained a little ante-flexed, but no longer painful. The quantity of the discharge diminished considerably, so that the patient, thinking herself cured, begged to leave the hospital after ninety days. A drainage tube was left in the aperture, and the patient advised to continue detergent injections. Three months afterwards, the patient again called at the hospital, saying that for some days she had been tormented with fever, and had with surprise observed the escape from the wound of long hairs with offensive pus. The cavity was examined, and from the aperture escaped a moderate amount of yellow liquid, offensive in odor, composed of pus, fat, etc., with a quantity of long, hard, black hairs, resembling those of the scalp of the patient. This revealed the essential character of a compound cyst; no longer a simple calloid cyst, but combined with another of a dermoid nature. The escape of hairs and liquid continued for about 40 days. Some injections of tincture of iodine were also used. The patient soon gained in strength, and after 70 days the encysted mass constituted only a tumor the size of a lemon, and a fistulous opening. The patient was discharged almost cured. The menstruation reappeared and continued with a perfect regularity.

Dr. Turretta has never noticed in surgical literature such a typical case, of a cure of a compound cyst, by spontaneous suppuration, opened through the abdominal walls, as the one he has reported. Five years have now elapsed since her discharge from the hospital, and he has found the same condition of the mural residual tumor, of the same volume, and the same small fistulous sinus which the patient keeps open with great care with a small elastic tube, fearing that total closure may bring back the old disease.

It is evident that such a fortunate result was due to the suppurative inflammation developed in the tumor. Twisting of the pedicle is sometimes a cause of inflammation of the cyst. But the torsion may be partial so as to produce only an incomplete circulatory strangulation; or may be complete as to produce a

complete strangulation, intercepting the arterial circulation, producing stasis in the venous capillaries, and therefore hæmorrhage, thrombosis, gangrene of the cystic walls and ichorrhæmia. Traumatic causes are the most common for inflammation of the ovarian cyst. This patient denied having received any blow or wound in the abdomen; but being a farmer was obliged several times to lift and carry around the body heavy objects, which, according to the author's mind, constituted a mechanical stimulus capable, especially if repeated and associated with atmospheric bad surroundings, of producing an inflammatory action. The sudden and strong contracting of the abdominal muscles constituted by themselves a trauma, which sometimes has produced a rupture of the cyst. The peritonitis must have been very limited. The general phenomena were due to the phlegmonous inflammation and to the absorption of the purulent contents.

The fortunate spontaneous cures of the ovarian cysts, although rare, are not entirely new. Broca, referring to statistics of Chereau, says that of twelve cases of cysts, ruptured in the intestine, in the vagina, or through the abdominal walls, five were cured, five returned, and in two death resulted (*Traité de tumeurs*, Paris, 1869, vol. 11, p. 147). But it seems that they were simply serous cysts, as Broca, at p. 146, op. cit., speaking of the possible accidents of cysts, and of adhesions of the internal parietes, says: "*Terminaison fort rare qui n'est possible que dans les kystes séreux.*" And on page 147 speaking of the curative treatment of the dermoid cysts, adds: "*La course de ces kystes étant très réfractaire à l'inflammation adhésive, et la récédive étant imminente toutes les fois qu'une partie même très limitée de cette paroi reste en place au fond du kyste,*" etc.

Koeberlé, Clay, Baker-Brown, Perruzzi, Spencer-Wells, etc., are unanimous in the opinion that only unilocular cysts with serous contents may, in rare cases, recover without ovariectomy; and that the multilocular, the colloid, the compound and the dermoid have no other resource but the radical operation.—*Giornale Internazionale delle Scienze Mediche*.

THE TREATMENT OF TYPHOID FEVER.

M. Jaccoud explains his treatment of typhoid fever used during the past sixteen years. Two essential characters are present in typhoid fever: The *adynamia*, produced by the typhoid infection, and the febrile consumption; *calorification*, which interferes in the functions of the heart and the brain. From this, two indications are given, one to sustain the strength of the organism, the other consists in the necessity of combating the fever. For the *adynamia* he advises wine, bouillon and milk; alcoholics (30 to 80 grammes a day), and 3 to 4 grains of extract of quinquina in the 24 hours. For the fever heat he advises 4, 6, 8 or 10 lotions a day of aromatic vinegar. The effect is certain. If the symptoms persist and become worse, he uses quinine in the form of bromhydrate and salicylic acid. He gives the quinine for two or three consecutive days. The first day he gives 1 gram, $\frac{1}{2}$ to 2 grams the second, and third day diminishes the dose to 50 centigrams. The dose is given within 30 minutes; in the morning to obtain the effect in the evening; or in evening to have the effect in the morning. Prefers the salicylic acid if the patient shows no alcoholism, nor weakness of the heart, nor any trouble within the kidneys or brain. If complications about the lungs appear, he applies dry cups on the stomach, and on the superior members.

He has treated in 16 years 655 cases of typhoid fever, and has lost 71 patients; 11 per cent.

To show his excellent results, and to compare it with that of others, he has collected 80,000 cases, and has found that the mortality is 19 to 20 per cent.

He protests against the excessive therapeutical methods that have been used during later years.—*Lyon Médical*.

PAST PARTUM HÆMORRHAGE TREATED WITH HYPODERMIC INJECTIONS OF ERGOTININE.

At a meeting of the Académie de Médecine, Dr. Charbazian read a paper on the subject. Ergotinine is the alkaloid of ergot; it is insoluble in water, but soluble in alcohol and chloroform.

A pound of powder of ergot contains 18 centigrams of ergotinine. The indication for its use is when the post partum hæmorrhage is due to the contraction of the uterus. The dose for a single hypodermic injection is 5 to 6 drops of a solution containing 4 milligrams of ergotinine to each twenty drops of the liquid. The injection can be repeated if necessary, but never more than twenty drops. More energetic and permanent contraction of the uterus is produced by it, and its action is more rapid than with the ergotin (which is nothing but an extract of ergot), and it neither produces abscess nor induration. Ergotinine is to ergotin what morphine is to the thebaic extract. The uterine contraction appears within two to five minutes. Could not say how long they last.—*Annales de Gynécologie*.

WEISS—THE MICROBIUM OF BLENNORRHAGIC PUS.

The presence of microbes in blennorrhagic pus has been indicated several times. A recent work of the author confirms the studies already made on this subject. The examined pus was taken from men and women with all the necessary precautions. In all cases the microscope revealed, between the pus globules and the epithelial elements, little bodies, some isolated, some united two by two, or forming little groups, and disposed in a special manner, and always with a characteristic aspect. He has examined the pus of thirty-two patients, and every time has discovered these parasitic forms. As a comparison, he has examined the pus of a single metritis, balanoposthitis, chancre or chancroid, leucorrhæa, etc., etc., and has never found the special element, which he considers as characteristic of blennorrhagia. For treatment, he insists upon the parasitic action of the permanganate of potassium. In fact, in all cases of vaginal blennorrhagia treated, in the injection of a solution of 25 centigr. per 1,000, he has noticed a rigid and notable diminution of the microbes; at the same time they lost their zone of involucre, and were modified so as to indicate their alteration, or their destruction, by the application of the substance.—*Ann. de Dermat.*

QUASSINE AND ITS USES.

Quassine is the active principle of *quassia amara*. It is amorphous or crystallized. Both forms produce the same effects; the former is preferable at a dose of four to ten cent. gr. a day; of the latter a dose above two cent. gr. produces toxic effects. In a healthy man quassine produces during the first days a rapid increase of the appetite, a more complete digestion of aliments and a rapid development of strength. At a dose of four cent. gr. before meals, it increases the alvine discharges, and therefore becomes useful in constipation caused by a feebleness of the muscular tunic of the intestines. This property is a precious one, for it permits, in many cases, to substitute the quassine for purgatives, which frequently render the constipation invincible, without speaking of the returns which most often are produced after their administration. At the same dose of four cent. before meals, quassine has been given to patients having three or four diarrhoeal discharges within twenty-four hours. After eight days of treatment the discharge became normal. Other experiments have proven that quassine has a most pronounced diuretic effect; that it increases the secretion of the salivary glands, of the fauces, of the kidneys, and also of the mammary glands. Quassine is a bitter tonic, aperient and stomachic. It must not be administered during the acute stages of diseases, but in the general debility, the atonic dyspepsia, the anorexia, the chlorosis, the spasmodic vomiting, the long and difficult convalescence, especially of fevers. -*Gazette des Hôpitaux*.

OXIDE OF ZINC POISONING.

At a meeting of the *Société de Médecine de Nancy*, Dr. Spillman communicated his observation of a patient who presented toxic symptoms after the ingestion of a certain quantity of powdered oxide of zinc. N., aged 23 years, was affected with a syphilitic chancre. He was ordered Ricord's pills and an application to the sore of powdered oxide of zinc. The patient, a German, not understanding the directions, when at home drank about ten grains of the powdered oxide of zinc in a glass full of water. After a few moments he was taken with

severe pain across the stomach, fainted and fell into a collapse. The druggist who furnished the powder gave to the patient whites of eggs. The doctor saw the patient several hours after the accident; he had cold extremities, pulse small, and continued vomiting. The vomiting persisted for over forty-eight hours, in spite of the means employed (ice, opium, etc.). It was evident that the powdered oxide of zinc had been transformed into a chloride of zinc. An adult secretes about 13,000 to 15,000 gram. of gastric juice daily, which contains four to five grams of hydrochloric acid per 1,000. The albumen, taken in time and in large quantity, had transformed the zinc salt into an insoluble albuminate.—*Revue Médicale de l'est.*

LARYNGEAL SPASM IN A CASE OF LOCOMOTOR ATAXY.

The patient, a mariner fifty-seven years of age, contracted syphilis eight years ago. He worked a good deal in cold weather, and suffered from pains in the lower extremities. Gradually the pains increased to a certain intensity, but they disappeared after two months' treatment. Three years ago, he suddenly had laryngeal spasms, with symptoms of locomotor ataxy. These spasms became frequent, and they were followed by intense pains in the limbs. There was now paralysis of the motors of the eye, with dilatation of the pupils and diplopia of the right side. The troubles in the lower limbs were doubtless of a tabetic character. There was spasmodic constriction of the larynx, but he retains consciousness. Sometimes speaking will produce these attacks, and the inferior vocal cords were influenced. There was vomiting, but no gastric pains.—*Lyon Médicale.*

SOME POINTS IN GENERATION.

Pflueger, the well-known physiologist, has experimented with the eggs and the sperm of the frog. The eggs were obtained from four different places, and also the sperm. Pflueger finds that neither climate, or water, or nutrition, is of any importance as respects the question of sex. He further calls the attention of physiologists to the fact that there is hermaphroditism in the frog until the second year, and that this hermaphroditism is more or less prolonged in different localities. He says, further, that

diluted semen acts nearly as well as the concentrated, and that the sex in the frog is generally predetermined.—*St. Petersburg Med. Wochenschrift*.

DIPHTHERIA TREATED BY HOMŒOPATHS.

By request of the homœopathic physicians at St. Petersburg, the Russian government gave these gentlemen a fair trial in all the hospitals of that city. They promised to prove that their treatment of diphtheria was far more successful than that of regular physicians. The commission nominated to supervise the results consisted of government physicians, and in large part of other government officials, who were independent of any outside influence. The result was disastrous for the homœopathic physicians, three-fourths of the children having died under their treatment. The commission, therefore, was forced to declare that after two months' trial, they have found the homœopathic treatment of diphtheria to be a "dangerous fraud."—*Wradshebrija Wedomosti*.

IN the monthly report for March of the Bureau of Vital Statistics, we notice the following items:

Total number deaths, 968. Children under five years of age, 483. Greatest number of deaths from phthisis, 94; diphtheria, 49; scarlet fever, 35; pneumonia, 70; infantile convulsions, 86; infantile marasmus, 13; bronchitis, 52; typhoid fever, 20; inanition, 35; by violence, 49; small pox, 9; 1,727 deaths in 1,000. Deaths in March, 1881, 876; March, 1882, 1,271; February, 1883, 859.

CHIARI, the pathologist, who has just been made professor at Prague, is a man thirty years old who has already made over 8000 post-mortem examinations. At a recent supper given in his honor, one of the speakers said he could not wish for greater happiness than that of being post-mortemed—if one may use the expression—by his friend Chiari.—*Medical and Surgical Reporter*.

Selections.

WHAT ARE THE CONDITIONS THAT JUSTIFY OÖPHORECTOMY?

By CLINTON CUSHING, M. D. (Read before the S. F. Obstetrical Society.)

By the term oöphorectomy is meant the removal of the ovaries for disease other than that of ovarian tumors, which increase rapidly, and tend to destroy life on account of their size. Ten years seem a short time for the history of an operation; yet this period includes all that is known of an operation that is being performed now in nearly all parts of the civilized world.

The original operators—Hegar of Germany, Lawson Tait, of England, and Dr. Robert Battey, of America—are still living; and the history of this procedure is still so fresh, and is doubtless so familiar to you all, that its repetition is unnecessary.

Like all new and radical operations, however, it has met with opposition and criticism from many members of the profession, and its position as a legitimate procedure is as yet not fully admitted; but as the roll of successful cases steadily grows larger, the opponents are gradually giving way, and the prospects are good that it will soon be recognized as the best if not the only means of curing a class of cases that have heretofore been looked upon as the opprobria of the profession.

The opposition to oöphorectomy is indeed slight as compared with the bitter war made upon the ovariatomists of forty years ago. At that time many leading professional men in Philadelphia called Dr. Washington Atlee a butcher, and little short of a murderer; and refused not only to be present at, or to countenance his operations for the removal of ovarian tumors, but refused to meet him in consultation in any case—but, as all know,

he lived to see his name famous, and the operation endorsed even by his enemies.

A later writer says: "The history of ovariectomy ought to teach the surgery of the future humility, as its first lesson; and of the past, it must never be forgotten that whatever of defeat or obloquy it encountered, was due to it."

This older surgery was one of traditions. Its limits were defined by authority, its methods were settled by command, and had no place within its borders for whatever violated its dogmas. One of its most cherished dogmas was the sanctity of the peritoneum, and the inviolability of the great cavities. Whatever the older surgery taught about these things was tradition, not fact, and tradition it remained until the creation of a new science and art called ovariectomy. Nothing can be stronger than the contrast between the present attitude of general surgery toward ovariectomy, and that held twenty-five years ago. Whatever, at the present day, is proposed or attempted in abdominal and pelvic surgery is received with plaudits, and finds a score of hands to essay its difficulties. This influence is really not limited to abdominal surgery; its impetus is felt throughout the field, and many a triumph has been scored under the moral stimulus of ovariectomy.

When the size and location of the ovaries are considered, and it is remembered that their existence is not necessary, either to the life or health of the female, the influence which they exert, especially when diseased, upon the general economy is remarkable. Acting, as they do, upon distant parts of the body, through the medium of the sympathetic nerves, there is not an organ or a function that are not at times rendered morbid. Even the mind at times seems to be under the direct control of these small organs. If, then, the evil influence of diseased ovaries may be so great, their removal, as a means of curing disease that can be reached in no other way, comes to be a matter of greatest interest.

In considering the conditions that justify the operation, I should place first atresia of the vagina or uterus, where the canal cannot be kept open, and where the ovulation was attended by

serious symptoms, such as excessive pain, and symptoms of shock, and hæmorrhage into the abdominal cavity.

It was upon a case of this kind that Dr. Battey performed the operation in 1878. The atresia was due to the extensive sloughing of the genital tract, consequent upon labor, the cicatricial contraction being so great that the canal could not be kept patent; or, in congenital absence of the vagina, when it is impracticable to form a canal, or where the new formed canal cannot be made permanent, the removal of the ovaries may be necessary in order to restore health, or even to save life.

Uterine hæmorrhages to a degree involving danger to life or serious impairment of health, and incurable by the administration of medicine, or by non-operative procedure, are undoubtedly cases for oöphorectomy where the cause exists outside of the cavity of the uterus. Among the causes may be mentioned fibroid tumors of the uterus, the existence of small cysts of the ovaries, disease of the fallopian tubes, such as dropsy or accumulations of pus in their cavities, and the existence of chronic inflammation of the ovaries and the pelvic peritoneum or pelvic areolar tissue.

The success of Lawson Tait in the treatment of these cases is certainly remarkable. Of his last twenty-five cases there has been but one death, twenty one were entirely cured, and three greatly improved. When these results are compared with other methods, such as hysterectomy, the use of electricity, the administration of ergot and bromide of potassium, and other means, it will be seen that no other method equals this in value. A peculiarity of Mr. Tait's method of operating is the removal with the ovaries of the fallopian tubes. He takes the ground that the monthly discharge of blood from the uterus is due, not to the influence of the ovaries, but to that of the fallopian tubes, and he bases his conclusions on the fact that in his cases where the ovaries alone were removed, the hæmorrhage from the uterus was not always controlled, but that when both the tubes and ovaries were removed, a cure followed. This is certainly a new departure from our previously accepted doctrines, and a further investigation by other observers will be required before Mr. Tait's views will be accepted.

A fact is adduced, and one that is well known to the profession, that ovulation is not necessarily attended by a discharge of blood from the uterus, for women frequently become pregnant while nursing, and before the reappearance of the menstruation after the delivery of their last child. Women have also been known to become pregnant before they have ever had a menstrual discharge.

Many other cases of the removal of the ovaries for the cure of metrorrhagia, due to the existence of fibroid tumors of the uterus, have been reported in the various medical journals during the past few years, and generally with good results, but none so favorably as the series reported by Mr. Tait.

Dr. T. Addis Emmet has recently visited Mr. Tait, in England, and he reports that from what he saw, he can speak favorably of Mr. Tait's work in this direction. The object of the operation in this class of cases is, that by the removal of the ovaries, we bring about the change of life, remove the influence of the ovaries and fallopian tubes on the nutrition of the uterus, lessen the blood supply to the parts and produce atrophy similar to that following the menopause. With the present light that we have on the subject, there can be no doubt that in properly-selected cases, the operation holds out a better prospect of cure than any other. The question of the removal of the uterine appendages for metrorrhagia due to chronic disease of the ovaries, or fallopian tubes, is still far from being settled, and it seems to me that it resolves itself first into the fact of our being able to diagnose, by means of an examination, whether there is sufficient disease of the appendages to warrant the belief that the fault lies with these organs. When the cysts in the ovaries are small, or the ovaries but little enlarged and not displaced, or when the fallopian tubes are not materially increased in size, many difficulties arise to prevent our gaining the desired knowledge. The abdominal walls may be rigid and unyielding, or thick and loaded with fat, or the pelvic structures may be more or less fixed and agglutinated by former inflammations, the distension of the abdomen by tympanites, or by ascitic fluid, all tend to perplex or hinder in the arrival at correct conclusions. In such an event, and we are unable to determine clearly the condition of the ovaries, if we

can discover no other cause, and the hæmorrhage is serious enough to imperil life, or render the patient an invalid, then the removal of the ovaries is justifiable if the loss of blood cannot be controlled by other means. Prolapsus of the ovary into Douglass' pouch, accompanied with enlargement, chronic inflammation and adhesion to the surrounding structures, is an affliction that is well nigh irremediable by any means except it be by its complete removal.

In a former paper read before this society I detailed the methods most likely to give relief in prolapse of the ovaries. If, however, we are unable to restore the patient to health by less severe means, and she was condemned to a life of invalidism by reason of her infirmity, the removal of the dislocated organ is justifiable.

In hernia of the ovary into or through the inguinal ring, when it is not reducible, and its abnormal position is attended by severe pain and swelling of the parts, and the heart becomes or is likely to become seriously impaired, the removal of the ovary is indicated.

All who have had much to do with the treatment of women have met with a considerable number of cases that have proved more than a match for their skill, and are classed under the general head of chronic pelvic inflammation. Commencing as a case of pelvic peritonitis or cellulitis, or pelvic hæmatocele, they end in partial recovery—perhaps in the formation of pelvic abscess. The recovery is never perfect, and from time to time, varying from weeks to months, there is a recurrence of the inflammation and pain until the health is destroyed, and the woman is left an invalid for the balance of her life. The treatment by general and local measures gives a modicum of relief, but a perfect cure is not arrived at; and the woman lives on from year to year a burden to herself and to all round her, with no hope of relief this side of the grave. In this class of cases Mr. Tait proposes the removal of the uterine appendages, in order to effect a cure, and he has now operated in thirty-five instances with but one death.

Regarding the secondary results, he says: "Precisely the same kind of argument applies to its secondary results, which in the hands of experienced operators are admittedly bad. For my

own results, so far I have abundant cause for satisfaction. Some of my cases yet are incompletely relieved, but by far the majority of them are absolutely cured."

A noticeable feature of Mr. Tait's cures, is the fact that in nearly every one the fallopian tubes were diseased; they were either dropsical, or contained muco-purulent matter or pus, and that, too, when the ovaries were not markedly diseased, except that they were cirrhotic, apparently from the effect of previous inflammation. This new departure in the management of these cases is both bold and novel, and if it proves, after a fair trial, to cure a considerable proportion of those cases that have heretofore been looked upon as incurable, then may we encourage our patients to take the risk of the operation with the hope of a cure as the result.

If there is any one principle in surgery more clearly settled than another, it is that diseased and incurable organs, the existence of which is seriously impairing the health, shall be removed by the knife, so, after all, it is not so much the propriety of this operation as a justifiable surgical procedure in the case last spoken of that calls for discussion, but the point to be settled if possible, is the conditions when it is the best thing to do.

Under the heading of neuralgia, there is a group of painful affections that have their site in and about the pelvic organs of women. Ovarian neuralgia, neuralgic dysmenorrhœa, coccygodynia, vaginismus, intercostal neuralgia, especially under the left breast, pain in the top of the head, and reflex symptoms, generally of a neuralgic type.

It has been proposed in severe cases of neuralgic or ovarian dysmenorrhœa, where the health is becoming seriously impaired, and the case is incurable by other means, to remove the ovaries as a last resort. I must confess that I would be loth to do this, unless the case was an exceptionally bad one, and there was some especial reason why the operation should be performed.

When we consider the effects upon the nutrition and the nervous system of women, of our mode of life, or in other words, of our American civilization, with their badly-balanced and over sensitive nervous organization, and with their predisposition to hysteria and neurotic affections, we must look to improvement of

the general health by improved methods of living, by constitutional treatment, by change of location and of surroundings for relief and cure, rather than to surgical procedures on particular organs. I should take the same view regarding oöphorectomy for nymphomania or vaginismus, exhaust other methods of cure first, only resorting to the operation in desperate cases.

Whether the operation will prove of value in cases where epileptic seizures occur habitually at the time of menstruation, is a question requiring farther experiment to determine, but where the attack is clearly dependent upon the nervous disturbance attending the monthly discharge of blood from the uterus, and is not relieved by other means, oöphorectomy is certainly worthy of trial.

Dr. Goodell and Dr. Pallen advise that the ovaries should be removed in all insane women. This is certainly taking very strong ground, and as yet is unwarranted, for we have not had a sufficient number of cases reported where a cure followed the operation to justify such statements.

However, I can understand that in cases of insanity, where an unbalanced mind is manifestly associated with, or caused by a morbid state of the ovaries, that their removal would be justifiable, and would perhaps be the only means left towards effecting a cure. On the other hand, Dr. T. G. Thomas reports three cases of insanity and mania following oöphorectomy, and Dr. Putzel, pathologist of the New York Insane Asylum, found no trace of disease of the ovaries in over one hundred post-mortem examinations made upon the bodies of women dying in that institution. The ovaries may be removed through the vagina by cutting open Douglass' pouch, passing a finger up into the abdominal cavity, drawing the ovary down through the aperture, ligating it, returning the stump, and leaving the incision to heal without sutures, the opening acting as a means of drainage. The objection to this method is, first the difficulty of reaching the ovaries, and next the uncertainty of removing every portion of the diseased gland, owing to adhesions to surrounding structures, consequent upon attacks of pelvic peritonitis or cellulitis. Experience has shown that it is of the first importance that every particle of the ovary be removed, if we wish to get the best results ;

for if a small portion remains, ovulation still goes on, and the object of the operation will be defeated. If the ovary is prolapsed into Douglass' pouch, and is not fixed by inflammation, and it is desired to remove it, the operation per vaginam is feasible, and not particularly difficult. In all other cases, the removal of the ovaries through an opening in the abdomen has decided advantages. The operation by opening the abdomen is precisely the same as in the operation for ovariectomy; an opening being made in the central line sufficiently large to admit three fingers, or the whole hand if needed, and the condition of the ovaries and fallopian tubes are ascertained. If the operation is performed for uterine hæmorrhage, both ovaries and fallopian tubes are removed; if for other reasons, only that part is removed which is diseased.

The operation is considered more difficult than ovariectomy ordinarily, mainly on account of the rigidity of the abdominal walls, they not having been distended and thinned as in the case of an ovarian tumor, and by reason of the ovaries being small, and sometimes buried in lymph. Hands, sponges, instruments, sutures, and dressings should be absolutely clean if we wish the best results. Listerism should be carried out to the fullest extent, with the exception of the spray, and the after-treatment conducted as after a case of ovariectomy. In his series of cases reported for the removal of the uterine appendages on account of uterine hæmorrhage, Mr. Tait incidentally mentions the fact of his drawing up the retroverted uterus and stitching it to the abdominal wound, and the cases recovered with the uterus retained in its normal position. This, although not mentioned as any special feature, is worthy of notice, as showing what is possible in this direction.

The mortality, so far as I have been able to gather statistics, varies greatly with different operators, and it is very noticeable that the greater the experience of the operator the less the mortality. Speaking of ovariectomy, Dr. Skene, of Brooklyn, a man of learning and skill, says: "This operation differs from all others that I know of, in the number and variety of complications which it affords. It is seldom that two cases exactly alike occur in the practice of any surgeon; hence it is not until a large number of

cases have been seen that the operator is prepared to meet all the conditions that may come before him. To the operator of limited practice, the operation in this respect often presents the characteristics of a new investigation."

Mr. Tait says, of his whole number of oöphorectomies, seventy-five in number, the operation being performed for various diseases, the mortality had been eight per cent.; for the last sixty-one cases there have been but three deaths, or a mortality of five per cent.; and the last thirty-five cases of chronic oörphoritis the mortality is but one, or less than three per cent. He says: "It is clearly, therefore, an operation which can be justified by its primary success, only in the hands of a surgeon who has large and constant practice in abdominal surgery, and when it is done by a large number of operators in twos and threes, it can only meet with speedy and well merited condemnation."

Dr. Battey's report at the Medical Congress in London, in 1881, gives the statistics at that time as follows: Of 90 cases of complete removal of the ovaries, 75 per cent. were cured, 17 per cent. were greatly benefited, and 8 per cent. not benefited. Of the incomplete operations, 17 in number, 18 per cent. were cured, 41 per cent. were greatly benefited, and 41 per cent. not benefited.

The mortality of these cases was, in the complete operations, 22 per cent., and in the incomplete operations, $9\frac{1}{2}$ per cent., but it must be remembered that a considerable number of these operations were done before the days of antiseptics, and before abdominal surgery had been perfected as it now is.

It is true that young and inexperienced men do not hesitate to cut open the abdomen for the removal of ovarian tumors, who would hesitate before attempting to perform the operation of removing the lens of the eye for cataract, or performing iridectomy, and yet all must agree that the skill required, and the danger to life involved in the former, is many times greater than in the latter operation.

The secondary effects upon the woman, in case she recovers from the operation, do not differ materially from those incident upon the change of life. The voice, the figure, the disposition is the same. The only way in which the woman's sexual condition is altered is her inability to bear children; and as this abil-

ity is usually destroyed before the operation is undertaken, this argument has but little force.

It has been claimed that it is an operation that is likely to be abused or needlessly performed. This may be true, as it is too often true of many new procedures in surgery; but abuses correct themselves, and I doubt not that the operation is capable of accomplishing much good, and that it will ultimately be recognized as a legitimate procedure in properly selected cases.—*Western Lancet*.

THE TREATMENT OF SPINAL DISEASES. A Clinical Lecture delivered at the Jefferson Medical College, Sessions of 1882–83. By ROBERTS BARTHOLOW, M.D., LL.D., Professor of Materia Medica and General Therapeutics in the Jefferson Medical College, Philadelphia.

GENTLEMEN: No thoughtful student can have failed to observe the greater attention paid to the pathology and diagnosis of spinal diseases than to their therapy. Indeed, the treatment is usually dismissed in a few words, as an unsatisfactory subject. Notwithstanding I have, myself, as a teacher of therapeutics, given rather more than ordinary attention during my lectures here to this department of the subject, I must still admit that my efforts in this direction have not been as full as the importance of the subject demands. I have now to make an effort to supply this omission—to place before you the more recent results attained in the treatment of spinal affections. By thus taking a comprehensive view of the whole field, we may the better comprehend the relation of the several parts and arrive at conclusions more accurately than by the consideration of individual maladies only.

From the therapeutical point of view, these spinal diseases may be comprehended in three groups: Acute inflammatory, chronic inflammatory, and nutritional diseases. It is of no special importance to fix the precise seat of the inflammation, for the principles underlying the therapeutical management are the same. To

a just estimate of the curative effect of remedies in these inflammatory affections, a true conception of the spinal circulation is necessary. Look at this diagram. Observe the voluminous and tortuous veins of the spinal canal. To the nutritious arteries of the cord they bear the numerical proportion of four to one. In other words, if the capacity of the arterial supply be put at *one*, the venous capacity must be stated as *four*. It follows that the blood current sent into the spinal canal through the arteries must be slowed there to fill out the veins. This, you will explain, is an arrangement to facilitate the functional work of the spinal cord, under the various conditions interfering with the normal and equable blood-supply. Without stopping to consider the necessity, we are now concerned with the fact, simply. The blood-supply having this peculiar arrangement, do these anatomical conditions affect the question of remedies? I unhesitatingly answer this question in the affirmative.

One of the remedies most relied on to affect the intra-spinal circulation is ergot. I hold that its administration in acute spinal inflammation is improper, because of the peculiarity of its action. It induces an anæmia of the arterial distribution—an ischæmia, properly speaking—but the blood, thus driven from the arterial side, accumulates on the venous side; hence, it follows that while the arterial supply may be reduced, the veins of the spinal canal are distended unduly. The compression thus exerted on the cord has, as I conceive, a most hurtful influence on its nutrition, and hastens the progress of the changes inaugurated by the inflammation.

If ergot is inadmissible in acute inflammation of the intra-spinal organs, to what remedies shall we then resort? You may not be at all prepared for the statement I have to make, but, speaking from the standpoint of my personal observation, I have to say that aconite, digitalis, veratrum viride, opium, and bromide of potassium are the most useful remedies in the cases of acute spinal inflammation. Each, however, has its special range of utility. All agree in the power to limit the blood supply to the spinal canal, but in what degree, if at all, does each affect the intra-spinal venous circulation? Far more than ergot. If I may again refer to my own experience, I can recommend the use

of digitalis first, and, if this disagree with the stomach, aconite. You will find it most useful to begin with the infusion of digitalis, administering from a tea to a tablespoonful every four hours, until the conditions for which it is used cease, or the stomach fails to retain it. If irritability of the stomach is a bar to its internal use, it may be effectively employed topically, the leaves being steeped in hot water, placed in a porous bag, and applied to the spine or abdomen. This remedy, you will find, will do more to restore the normal balance of the intra-spinal circulation than any other now at our command.

Next to it in point of utility is the tincture of aconite root. This must be given until the characteristic tingling is produced, or the pulse-rate is lowered. Acting both on the skin and kidneys, it favors the excretion of the products of inflammatory waste. *Veratrum viride* is not as useful as aconite—its action little extending beyond the hydrostatic effects. Opium, especially morphia, hypodermatically, becomes indispensable when pain is a pronounced feature in all cases, and experience has shown its utility in meningeal inflammation. The bromides, especially bromide of potassium, are indicated when reflex, convulsive phenomena are present; such as muscular cramp, twitchings, etc., indicating irritation of the motor tract.

Are there any data by means of which we may fix the time for the administration of the arterial sedatives? As these remedies only affect the vessels primarily, and secondarily the structure of tissue, when shall they be discontinued? In respect to this point, there is always no little indecision; but a correct conclusion may be reached by a careful consideration of those symptoms, indicating the occurrence of exudations—symptoms whether of excitation or of depression of function. So long as the symptoms of excitation—hyperæsthesia and spasm—continue, there can be no doubt that those remedies will be useful which have to do with the blood supply. When exudations occur and pressure is thereby brought to bear on the intra-spinal organs, the symptoms of depression or of arrest of function come on—anæsthesia and paresis.

Arterial depressants can do no possible good; only injury, indeed, when the local status is no longer that of hyperæmia and

excited action ; when the process of effusion and exudation comes on, we have to deal with depression of function. Remedies having very different powers then come into use.

Merely fluid effusion into the spinal canal is more easily disposed of than a solid exudation. Usually, however, the products of inflammation include both fluid and solid exudations. Absorption of merely fluid exudation may be affected by a judicious combination of purgatives and diaphoretics, especially of Epsom salts and pilocarpine. The disposition of solid exudations is more difficult. Considerable experience with the use of ammonia and its salts, especially of the acetate and carbonate, has given me very positive confidence in the power of this remedy. The most convenient mode of administering it is to dissolve the carbonate in the officinal *liquor ammonii acetatis*, so that five grains of the former will be given in a tablespoonful of the latter. At or about the time when the symptoms of depression, due to the pouring out of an exudation, come on, the solution of ammonia should be administered. The important point is to so alkalinize the blood, that local thrombus and solid exudations may be reabsorbed. To accomplish this result, it is necessary to keep the blood well alkalized. Although this may fail, it is surely the most promising expedient in such cases, and experience has proved its utility.

If the physician is so fortunate as to see the case at the very moment of its inception, the best results are to be expected from the administration of a maximum dose of quinine and morphine—20 grains of the former and one-half grain of the latter ; but unfortunately, cases of acute spinal inflammation are not often seen at their beginning. The attempts to jugulate an inflammation can therefore be very rarely made with success. The cases of chronic inflammation are relatively more frequent. They succeed to the acute ; they may arise *de novo*. Hyperplasia of the neuroglia, granular degeneration of nerve fibers and cells, fatty and granular degeneration of the intima of the vessels, and crowding of the perivascular lymph spaces with leucocytes, are the most important initial changes, and these lead to various inflammatory and atrophic lesions. The various sclerosis belong to the group of chronic inflammatory affections—such as antero-lateral and posterior spinal sclerosis. The alterations extend

over many years, but they are, properly speaking, of the chronic inflammatory type. It must be obvious to you that some of the most important therapeutical questions are concerned in the management of these affections. The means employed are partly topical; partly systemic. A daily morning and evening hot douche to the spine, of fifteen minutes' duration. I have found it to be exceedingly effective.

In the absence of suitable appliances for the douche, a sponge dipped in hot water and passed over the spine rapidly for fifteen minutes at a time may be accepted as its equivalent. You may regard this as trivial, but I assure you the day of small things has not yet passed. The importance of physical impressions on the peripheral nerves is indeed very great. Strumpf, the well-known neurologist of Düsseldorf, has lately got remarkable curative results in posterior spinal sclerosis by cutaneous faradization, by excitation with the faradic brush of the skin of the back, especially of the spine and of the limbs. This method consists in passing the faradic brush for a half hour at a time thoroughly over the parts in which the lesion is known to exist, and over those parts in which symptoms are felt. You will probably feel inclined to ask, How can cutaneous faradization effect the cure of a disease which has hitherto resisted the most efficient treatment? It may be quite impossible to give an adequate explanation, but it is certain that peripheral irritation, if restrained within proper limits, has a remarkable curative effect on the condition of internal organs so situated as to be in anatomical relation to the site of irritation. Thus, Strumpf has found that cutaneous faradization of one side will cause an increase of the temperature in the corresponding position on the other side. Erb strongly advocates the use of the rubbing wet-pack in chronic myelitis. He does not advise cold or hot water, but merely tepid. The patient, enveloped in a sheet wrung out in tepid water, is gently rubbed with the sheet *in situ*. To the same class of actions belongs massage, but this alone has, in my experience, been disappointing. If the application can be confined to the gentlest titillation of the cutaneous nerves, good may come of it; but in the spinal trouble I am referring to, all violent rubbing and kneading apparently does mischief. Granville's *percutier*, lightly used,

has a good effect also. It is a matter within the range of everybody's experience that the most painful inflamed surface will be anæsthetized by the gentlest friction if persistently employed. It is probable, therefore, that the good effects of peripheral applications in spinal affections are largely due to the communication of very gentle impulses originated at the periphery, in the sensory terminals.

Besides these topical applications which act through the sensory nerves, there is a local remedy which acts directly on the cord—galvanism. Since it has been shown that the galvanic current penetrates through the bony envelope of the cord, the only question is as to the mode of applying the electrodes. Strangely enough, opinions are yet divided as to the effect of direct or inverse currents. My own conviction is, that the view of Onimus and Legros is substantially correct. According to them, the descending galvanic current increases the activity of the circulation in the part acted on, by stimulating the vermicular contractions of the organic muscular fiber of the vessels. The result of such increased vermicular motion, must necessarily be a more active circulation, and more rapid interchanges between the blood and the tissues. A descending galvanic current must therefore promote the nutrition of parts, if we admit the correctness of the views enunciated by Onimus and Legros. It is therefore, in chronic spinal affections that we have a right to expect the best results from galvanic treatment. As the resistance offered by the bones of the spinal column is so great, the electro-motive force of the galvanic battery must be sufficient to overcome it.

To treat such cases efficiently, not only must the number of elements be large, but the resistance within the battery must be nearly that of the part of the body acted upon, to avoid the shock and burning pain. The electrodes should be of large, well-moistened sponges—one placed on the nape of the neck, the other on the sacrum. As the strength of current required for these spinal applications is so great, unless the sponges are large and well-moistened, very severe burning will be produced. The number of elements required will be from thirty to sixty, or the strength in *milleampères*, from ten to twenty. There should be a daily *séance* of ten to fifteen minutes' duration, and the treat-

ment should be continued over many months to obtain permanent results. It is the neglect of these measures, inattention to details, and impatience over delays that have led to so much disappointment in the application of galvanism. I am, from personal observation, fully able to confirm the high estimate placed by Erb on the method of treating chronic spinal affections. Neither galvanism nor any other remedy can restore lost parts; hence, when the anatomical elements are destroyed, function must ever after be imperfectly performed.

I must now call your attention to the most useful internal remedies in chronic cases of spinal inflammation. The best results have been obtained from the so-called metallic tonics, notably nitrate of silver, but the danger of staining and of causing gastric ulceration are serious objections to the persistent administration of silver salts. In the scleroses, and in connective tissue hyperplasia of organs in general, I have seen excellent results from the internal use of the chloride of gold and sodium. This may be given in a granule containing one-twentieth of a grain three times a day. The corrosive chloride of mercury has similar effects, but it does not seem to me to be equal in curative power to the gold chloride.

There are so many ways, owing to the almost universal use in domestic life of the noxious metals, for slow metallic poisoning to occur, that the affections thus produced are probably much more numerous than we are now aware of. A typical example of locomotor ataxia came into my hands, in the person of a water gilder. Syphilis is now held to be the chief pathogenetic factor in this disease, but there are two modes in which this relation exists—direct and indirect. Syphiloma occurs when the first cutaneous lesions appear, but especially during the time of the older constitutional symptoms. The first are comparatively mild, the second consist of gummata, etc. These lesions are direct—that is, they belong to the ordinary course of development—of evolution of the disease. The indirect arise because of the cachexia—the lowered vital resistance of the organism, produced by the long-continued operation of the syphilitic disease and of the remedies used to remove it. In the former, or the direct syphilitic lesions, the specific remedies are curative; in the latter or indirect, they

rarely do good; in fact, their administration is adding insult to injury, in many instances.

I have long entertained the notion that the utility—the remarkable utility—of iodide of potassium in some cases is due to one of two conditions: to an overlooked syphilitic infection; to metallic poisoning. This is so certainly a fact, that in doubtful cases I advise the use of full doses of iodide of potassium as a preliminary to further treatment. In all distinctly specific cases there can be no possible doubt in regard to the efficacy of anti-syphilitic treatment. Now let me tell you a fact not generally known, or, if known, not sufficiently appreciated: Mercury, in syphiloma of the nervous system, tertiary in type, is, in some instances, quickly curative when the iodides fail utterly. *When there is reason to suspect mineral poisoning, and in all doubtful cases, the iodides should be administered in full doses, either tentatively or as the major treatment.*

The third group, from the therapeutical point of view, consists of these spinal disorders not due to a recognizable inflammatory process, but to some change in the function of nutrition. In this position may be placed the changes that are senile, whether of time or prematurely. The most important therapeutical point in these cases is to supply the material in which the tissues are deficient. A combination of the lime salts—the phosphate especially—with a fat, cod-liver oil, is most useful in these cases, but good results can be reached only by persistent use of the means of treatment. In these cases of senile degeneration, much good is accomplished by the use of the salts of ammonia to prevent the formation of thromboses, or to effect their solution if formed. Strychnia and quinine, to stimulate the organic functions, render an important service also.

The subcutaneous use of strychnia is often remarkably effective in all of the chronic spinal affections characterized by loss of muscular power. It is, of course, inadmissible in those stages of these maladies having an active state of the local circulation—in all acute cases, in chronic cases with acute exacerbations. The quantity to use in this way ranges from 1-60 to 1-30 grain daily, once, or on alternate days. The hypodermatic injection of strychnia may, indeed, serve as a means of distinguishing the

character of the spinal trouble. It increases the paralytic symptoms when an inflammatory condition is present, and improves the functional and chronic diseases.

Galvanism, applied as already pointed out, to stimulate the spinal circulation, and faradism at the periphery, contribute to the nutrition of the cord by promoting the activity of the circulation in general. By a proper combination of these expedients, we can often effect very decided improvement.

As you will observe, I have not alluded to the treatment of the large group of so-called functional disorders of the spinal cord. The consideration of this is a sufficiently fruitful topic of itself for a lecture—for many lectures, indeed—and hence I must postpone it to a more convenient season.—*Weekly Medical News.*

CLINICAL LECTURE ON THE DISEASES OF WOMEN. Delivered at the College of Physicians and Surgeons, New York. By PROF. T. GAILLARD THOMAS.

INFANTILE LEUCORRHŒA.

GENTLEMEN: The little girl, nine years old, whom I first bring before you, is suffering from a very profuse leucorrhœa, which, her mother informs me, she has been unable to cure by any of the remedies which she has employed, and which has now lasted for two months. I, of course, made a vaginal examination, and, on separating the labia, I found that the whole vulva was about the color of red flannel, and bathed with a copious leucorrhœal discharge. The meatus urinarius was also seen to be in the same condition, and urethritis has, no doubt, been set up by the spreading of the irritation. If it had been necessary, I could have introduced a small glass speculum into the vagina; but this was not required to make a diagnosis, as I saw exactly what was the matter without resorting to this.

Not infrequently mothers will bring their little girls to you in this condition, and they will sometimes be in a state of great agitation, because they are afraid the trouble has been the result of injury done the children. There is ordinarily no reason

whatever to suspect anything of the kind, and you can at once quiet the anxious mother's mind. The affection is a perfectly simple one, and is perfectly curable also. What is it, then? It is generally known as infantile leucorrhœa; but infantile vaginitis would be a better term for it.

Now as to its causes. One of the most frequent of these is neglect of hygienic precautions. There is generally no intentional neglect on the part of the mother or nurse; but, on account of the undeveloped condition of the part, an accumulation of hardened secretion sometimes collects in the same way as that which not infrequently gives rise to balanitis in the male child. Another common cause is the depreciated condition of the child's system, such as that due to spanæmia, in which all the mucous membranes are apt to become more or less affected. Thus, there is often gastric and intestinal, as well as nasal catarrh. A third cause that may be mentioned is reflex influence from the rectum. The cause of the irritation in the rectum is usually ascarides, and an afflux of blood to the part is caused by the itching and irritation.

In some instances, the ascarides, by getting into the vagina itself, are the direct cause of the trouble. The prognosis of this affection is, that it can be cured at once if it is properly treated.

In the treatment, the first thing to do is to see if there are any worms present, and if so (or there is any reason to suspect that such is the case), use an injection of warm salt water, as this form of ascaris (*the ascaris vermicularis*), as well as others, is unfavorably affected by salt. The next thing to do is to get the child's general system in the best condition possible by appropriate food, iron, vegetable tonics, and the hypophosphites. It is better to depend on nourishing diet, however, than on medicinal agents. If after the worms have been gotten rid of the vaginal irritation and discharge should continue, or if no worms should be found to be present, local treatment will be required. The vagina should be thoroughly washed out by means of a syringe provided with a small nozzle, which ought to be well oiled before being introduced. In order that the canal may be perfectly cleansed, the child should be placed upon the back. In some cases the mere removal of the accumulated secretion, which

is a constant source of irritation, is all that is necessary ; but if the trouble has gone on for some time, this may not be sufficient. Something further is then needed, and one of the best applications to use is the old-fashioned black wash (calomel and lime-water) in the strength of one ounce to the pint of water. Before using this (which should be done twice a day), an injection of simple warm water should be made. I have never yet seen a case of infantile leucorrhœa that could not be cured by such treatment as this ; so that there is no necessity of resorting to astringents and nitrate of silver, which may perhaps do harm. If it is adopted here, I have no doubt that in less than two weeks this child will be entirely well.

But there is one mistake which is apt to be made by the physician in these cases, on account of which a much longer time may be required for a case than is at all necessary, and that is, the failure on his part to show the mother or nurse how to introduce the nozzle of the syringe properly. Mothers, unless they are especially instructed in regard to this point, never carry the nozzle more than an eighth of an inch up into the vagina, and as it is above this that the degenerating pus is found, there will be no improvement, simply because the injections fail to reach the real source of trouble. It is not enough even to show the mother how to use the syringe, but you should also watch her do it, and see that the upper part of the vagina is reached. In a child of this age, the rectal tube of a Davidson syringe should be employed.

RECURRING ATTACKS OF PELVIC PERITONITIS IN CONNECTION WITH OVARITIS AND SALPINGITIS.

Our next patient is Mrs. Mary H., a native of the United States, and 33 years of age, who has been married for ten years. She has had two children, and the youngest is now 7 years old. She says she got quite well after the birth of her last child ; but has been complaining for more than six years. She nursed the child for about seven months when her menses came on, and since that time she has never been well. This is not an uncommon history ; the trouble not commencing at child-birth, but with the resumption of ovulation. Since she has stopped nurs-

ing the child, she says she has had constant pain in the lower part of the abdomen, and twice she has been very much bloated. The first time that this bloating occurred, she did not suffer much pain with it; but the second time it was accompanied with very severe pain, and she was confined to bed for a time. The second attack lasted for about two months. In regard to her menstrual periods, she says she does not have much more pain than usual at that time, but that she has considerable pain for three or four days before the flow, and that it is somewhat relieved by the latter. She sometimes has backache in addition to the constant abdominal pain, but is always able to attend to her household duties.

When a vaginal examination was made in this case, it was found that the uterus was in its normal position, and, on mapping it out, by means of conjoined manipulation, that there was more or less fixation of the organ. On either side of the uterus was discovered a mass which was tender under pressure, and which extended outwards. The fixation of the uterus indicates with certainty that the patient has had pelvic peritonitis; and there can be little doubt that the two attacks of which she has spoken were of this nature. The bloating which she mentioned, and which she thought was dropsy, was in all probability the tympanites which so frequently accompanies pelvic peritonitis.

What is the diagnosis here? All the gentlemen who have examined the case, agree with me in believing that both the fallopian tubes, as well as both the ovaries, are enlarged since these parts can be mapped out with unusual ease in this instance. It is altogether probable, therefore, that after she ceased nursing her child, she became affected with chronic ovaritis and chronic salpingitis. Mr. Lawson Tait, the distinguished English surgeon, has recently pointed out the fact that repeated attacks of pelvic peritonitis occur as a result of this condition of the ovaries and tubes. Up to the time that Mr. Tait's paper appeared in the *British Medical Journal* last summer, I had never had my attention called to this point, and consequently my experience has not yet been very extensive in regard to it; but I have already seen enough to convince me that he is quite right in at-

tributing these recurring attacks of pelvic peritonitis to the escape of irritating fluid from the inflamed tubes into the peritoneum. In the present instance, the first attack of peritonitis was evidently very light; but the second one seems to have been considerably more severe. Although the tubal enlargements can apparently be made out with unusual clearness in this case, the diagnosis, you must understand, is not a positive one.

I have not operated in five cases where the same diagnosis was made, but they were all cases in which the patient's sufferings had become intolerable. The fifth operation was performed only four days ago. The patient was completely bed-ridden, and had become so addicted to the use of opium that she required no less than ten grains of sulphate of morphia by hypodermic injection each day. Sometimes she has taken as much as sixteen grains in the twenty-four hours. To-day, for the first time, her allowance of the drug has been diminished. Her ovaries and fallopian tubes, I may say in passing, were found to be in typical condition described by Tait.

In the case now before you the ovaries and tubes are, no doubt, in very much the same state; and yet this is a case in which I certainly would not recommend the operation for their removal. The reason is, that this woman does not suffer to such an extent, in my opinion, as to justify a resort to so radical a procedure. I cannot impress upon you too strongly the fact that the dangers of this operation are very great: and the great fault I have to find with Mr. Tait, is that he makes too light of them altogether. I cannot believe that the high standard of success which he has thus far maintained, will be kept up in the future. In the five cases which I have now operated upon myself, there is not one patient to whom death would not have been a welcome relief from her sufferings. A woman who is in such a deplorable condition as all these even before this operation, is worse than a leper, and everybody who has anything to do with her case soon gets sick of it. Such patients almost invariably become opium-eaters. The present case is fortunately not of this desperate character. The dividing line must be drawn between suitable and unsuitable cases for operation; and nothing would induce me to operate here, as long as she remains no worse than she is now. She

does not suffer enough, and her life is by no means miserable enough, to render it proper to subject her to the dangers of such an operation. Saturday, however, I saw a case in which I would not hesitate an instant to operate, because the poor woman had had so many attacks of inflammation, and was so utterly wretched in every way.

Here, instead of an operation, I would recommend such measures as the repeated painting of the roof of the vagina with compound tincture of iodine, the external application of blisters or tincture of iodine, and the continued use of galvanism and the hot-water douche.

SUBINVOLUTION AND ANTEFLEXION IN CONNECTION WITH LACERATION OF THE CERVIX UTERI.

Our last patient to-day is Mrs. Mary P——, 24 years of age, and a native of the United States. She has had one child and three miscarriages, the last of which occurred one year ago. She says she has been complaining for the last three or four months, and has suffered from severe pain in the back and lower part of the abdomen. At her monthly periods, which last for a week, she flows very profusely. She also suffers a great deal of pain at the time of menstruation, and would go to bed if it were possible for her to do so. Between her periods she has a profuse leucorrhœa. All the miscarriages, it seems, have occurred since the birth of her living child, and in answer to closer questioning she tells me that the menorrhagia has really continued ever since her baby was born, but has increased of late. The pains also she has had for a long time, but it is only within the last three or four months that they have become so severe. Finally, she says that there has been no change in her condition of life which would account for the aggravation of symptoms of which she has spoken.

When I made a physical examination in this case, the moment the finger was passed up into the vagina, it was found that the uterus was tilted forward to a marked extent, and that the cervix was badly lacerated on both sides. The uterus was then found to be not simply anteverted, but in a state of anteflexion, and was also both large and tender. The ovaries were, apparently, altogether normal. Such a condition having been found, the most

of the patient's symptoms are already accounted for. When the child was born the cervix uteri was lacerated, and, no doubt, in consequence of this, involution was interfered with. The menorrhagia depends on the abnormal condition of the lining mucous membrane of the uterus, which was in all probability affected by subinvolution. The diagnosis of the case is, therefore, *first*, laceration of the cervix; *second*, subinvolution of the uterus; *third*, anteflexion of the uterus, in consequence of the subinvolution; and, *fourth*, fungoid degeneration of the endometrium. Some European writers call this latter condition *endo-metritis polyposa*, but the name is not a correct one.

In order to be properly treated, this patient should be admitted to the Woman's Hospital. She should be kept quiet for a week, have her bowels regulated, and be treated with hot vaginal injections. A Sims' speculum should then be introduced, and by means of a copper wire curette, such as I now show you, the whole endometrium should be scraped, in order to remove all the little polypoid excrescences with which it is covered. After that she should remain in bed for three or four days, the hot vaginal injections being kept up in the meanwhile, and then an operation for the repair of the lacerated cervix should be performed. The sutures could be removed in about ten days, and the next thing would be to restore the uterus to its proper position, in which it would probably remain without the use of a pessary. The patient could then be discharged, and I believe that she would soon be entirely well.

You observe that the woman is very pale and weak from loss of blood; but as long as this condition of menorrhagia continues, it is adding fuel to the flames to give her iron or quinia. Iron, I have found, is the very worst thing that you can give such a patient, and this is a point which I trust you will not lose sight of. As to the leucorrhœa, that will no doubt disappear as soon as her system, freed from the constant drain from which it now suffers, has regained its normal strength and tone.—*Medical and Surgical Reporter.*

CASE OF INTERSTITIAL TUBO-GESTATION.

Dr. Henry Habgood describes the case of a married woman, aged 35, who died with all the symptoms of internal hæmorrhage, in the eleventh week of pregnancy. "At the necropsy, there were about five pints of clotted blood in the pelvic and abdominal cavities. On turning this out, the source of the hæmorrhage proved to be a sac, formed by the uterine portion of the left Fallopian tube and the wall of the uterus, which had grown outwardly to about the size of a walnut, and then ruptured anteriorly. Chorion villi were distinctly visible in the sac. The opening of the tube into the sac had become obliterated. There was evidence of a previous partial rupture, in the shape of a small hæmatocele, on the posterior aspect of the sac. The fœtus had escaped into the abdominal cavity, and was unfortunately lost. The left ovary was closely attached to the left side of the uterus by old bands of lymph, and contained several cysts. The right ovary was normal, and contained a corpus luteum. The uterus was enlarged, and its lining membrane was red and thickened, forming a distinct decidua, that could be easily detached. The bladder was healthy, but contained no urine. The abdominal organs were healthy, but very anæmic.

With regard to the cause of the arrest of the ovum in that particular spot, I may remark that nothing existed in the Fallopian tube or uterus, in the shape of polypus or fibroid, to cause obstruction, but that there were plenty of adhesions on the left side, matting the uterus, Fallopian tube and ovary together, altering their relative positions, and, possibly, causing obstruction. Yet the presence of a corpus luteum in the right ovary, coupled with the cystic condition of the left, would point to the theory of transmigration of the ovum as being the most probable explanation of the phenomenon."—*British Medical Journal*.

CEREBRAL DYSPEPSIA. By JOHN S. MAIN, M.D.

The author strongly insists on the purely cerebral origin of many forms of dyspepsia, where the patient is neither over-indulgent, nor intemperate, nor addicted to hurrying over meals, nor accustomed to eat coarse or unwholesome food. The cerebral

form of dyspepsia is well seen, in many cases, where a healthy man, with a good appetite suddenly receives bad news when sitting down to a meal. "But, perhaps, of all conditions acting on the brain in this manner, and through the brain on the stomach, no one thing is more injurious, or more jarring to the cerebral elements, than uncertainty, and the worry caused by the same, more particularly in preternaturally, irritable subjects. In fact, it is in connection with this same worry that the form of dyspepsia I have at present under consideration most frequently occurs. The mind, in such cases, preys upon itself; the cerebral elements seem to get jarred and out of gear; and with this condition the stomach sympathizes. But in addition to worry the habitual practice of calling into action the 'reserve fund' of the cerebrum, as already mentioned, will bring about the same consequences—namely, cerebral fatigue and exhaustion, indicated chiefly by preternatural irritability; this condition, sooner or later, telling upon the digestive organs. Having said this, it is almost unnecessary to add, that such cases are most commonly met with amongst those who are engaged in the hottest part of the 'battle of life,' or 'struggle for existence;' and, again, amongst these, chiefly those whose business or profession leads to much anxiety, uncertainty, or overstretching of the mental powers. In over-aspiring, over-ambitious natures 'hope deferred' may bring about the same results; as, according to the biblical expression 'it maketh the heart sick.' My attention was drawn to several cases of dyspepsia, connected with one or other these conditions, some time ago; and what made me more strong in my view of these cases being cerebral, and not stomachic at all in their origin, was their obstinacy under all forms of natural treatment. Latterly, I have found that the only treatment capable of doing these cases any permanent good, is a change, in the wide sense of the term—a relaxation from business or study; and as regards medicine, not such as are meant to act on the stomach directly, but those meant to act on the cerebrum. Amongst these, I have found the most useful to be the bromide of ammonium, or bromide of potassium—preferably the former—given in sufficient dose a bed-time, to secure a good night's sleep, this being often very indifferent, and so tending to complicate the case; and,

combined with this, to be taken three or four times during the day, such medicines as are known to have a building up effect on the nervous system. Among these, the most useful are phosphorus, or the hypophosphites, and cod-liver oil. Arsenic and quinine are often also useful, and a generous diet is always indicated. Unless the stomach has passed into a state of disease (which it may do, if overtaken when in this weakened state), any of these medicines are generally well borne. It will be well to bear in mind, however, that if the mucous membrane of the stomach be in a state of irritation, quinine, arsenic, phosphorus, the hypophosphites, and sometimes even cod-oil, are generally inadmissible."—*British Medical Journal*.

THE SALICYLATES AND HÆMORRHAGES IN ENTERIC FEVER.—Dr. James Fergusson, of Perth, writes: "At the time when salicylic acid and its compounds are receiving so much attention, may the following facts be regarded as at least worthy of statement? Last year, while resident in the infirmary here, I had an opportunity of testing the efficacy of certain drugs as antipyretics in enteric fever. These agents were used successively, each over a group of cases, and included the salicylate of soda. The latter had not been long in use when an increased frequency of hæmorrhages from the bowel raised the question, Could the salicylate be favoring the production of that complication of the malady? Whether it were or not, the suspicion aroused, dictated the withdrawal of the salt from use in cases of typhoid. Shortly afterward, I noticed that a foreign observer had reported the salicylate of bismuth, and, I think, also salicylate acid (though of the latter I cannot be certain, as I am not able now to find the report in question), to cause intestinal and nasal hæmorrhages. The subject would not have been revived by me at present, but for the recent experience of my successor in the resident's office at the above-mentioned institution, D. H. McLean Wilson, who joins me in placing the facts before the public. Dr. Wilson, in having recourse to the soda-salt in typhoid, found the same striking frequency of hæmorrhage to follow closely. His employment of the agent differed from mine, in that he administered the

small doses of ten to fifteen grains frequently over the twenty-four hours, while I gave half-drachm or drachm doses at longer intervals apart. In the other respect, however, our experiences have been so similar as to warrant the fact being brought under notice, so that the important practical question involved, may, if possible, be decided by the evidence of a number of observers.”
—*British Medical Journal*.

TO HASTEN THE ACTION OF QUININE.

Dr. Starhe, in *Berliner Klin. Wochenschrift* advises that before swallowing powder or pills of quinine, a weak tartaric acid lemonade be taken. This procedure not only greatly accelerates the solution and absorption of quinine, rendering its physiological action much more prompt, but also obviates that unpleasant gastric irritation so common after the administration of large doses of this drug.—*Medical and Surgical Reporter*.

FATAL IMPACTION OF THE BOWELS FROM CHEESE. By CHARLES W. MILLER, M. D., Peabody, Kansas.

One evening about dusk, in the latter part of February, 1879, I was hastily summoned from my office by a Russian farmer living fifteen miles northwest of this city, in the interest of a sick neighbor of his by the name of Abraham Base, also a Russian, whom he represented, as well as I could determine, as suffering greatly from flatulent colic. Supposing, from what I could understand from the Russian's description of the case, that it was nothing more than an ordinary case of colic, induced probably by over eating or by the use of very improper food, I merely supplied myself with a good supply of ipecacuanha and morphia, and started on my mission in company with my Russian friend on a journey of fifteen miles of lonely prairie, during one of the coldest nights of that intensely cold winter. Arriving at one of those peculiar Russian houses, consisting of mud and straw—the mud in the form of Russian brick, from which the house is constructed, and the straw for the thatched roof overhead—I found myself among a group of solemn, religious people, who were anxiously awaiting my arrival. My patient was lying upon his

back in bed, with his legs drawn up, his knees almost touching his abdomen, in agony indescribable, the sweat pouring down over his face, and with all of his undergarments as wet as though he had just been lifted out of a hot bath. He was a tall, heavy man, muscularly built and powerfully constituted, somewhere in the neighborhood of thirty years of age; married, with wife and family of small children surrounding him. Seeing at a glance that I had no ordinary case to deal with, and that the diagnosis I had anticipated was very probably a visionary one after all, I commenced to probe the family for a history of the case in the best German I could command, while seemingly examining his tongue and pulse. The results were that he had been confined to the house with abdominal pains three or four days previously, the pains increasing in severity each successive day; that they came about in the first instance from a visit to Newton, a town distant about fourteen miles, which he had made some days previously in a large, heavy, jolting farm-wagon, eating about a pound and a half of store cheese on his homeward journey: the jolting, bumping movement of the wagon packing it down for him *solidly* about as fast as it reached the small intestines; this destination being reached also somewhat faster than ordinary by the rough manner of the journey. He was now suffering from peritonitis, with all of its concomitant symptoms; vomiting of fecal matters; dry, parched condition of the tongue; extremely foul breath; stercoraceous vomiting; partial coma; extremely swift and feeble pulse; deeply injected eyes; flatulent condition of lower bowels; the impaction being marked and fairly outlined against the abdomen. There had been no stools for twenty-four hours previously; nothing passing but flatus, which was frequent and involuntary. No retention whatever, by mouth or rectum, of anything solid or liquid, in quantities however small. Seeing, therefore, at once the hopeless situation of my patient as well as myself, I concluded to send for my partner for consultation, in the meantime employing message gently and persistently over the seat of impaction, in the desperate hope of moving the mass.

We labored earnestly until dawn by the side of the doomed Russian, doing all in our power to move the mass, but nothing

came but flatus. An operation would have been useless at the advanced stage in which the case was first presented to us, as well as firmly objected to by a people believing religiously in the will of God in all such matters. Singular to relate, the man lived nearly forty-eight hours afterwards, dying only when mortification had long existed to a great extent over the seat of impaction. —*Southern Clinic.*

ON THE THERAPEUTIC VALUE OF SULPHUROUS ACID IN SCARLATINA MALIGNA.

Dr. Keith Norman Macdonald, after denying the prevalent opinion, that no reliance can be placed on any drug in cases of scarlatina, does not hesitate in affirming that, when properly applied, both locally and internally, sulphurous acid is by far the most efficacious remedy we possess. He continues, "I have had several opportunities of testing its efficacy in some of the worst cases I have ever seen, during the epidemic which has been rife in this town (Cupar Fife) for the last two months, and I am bound to say that, of all remedial measures in this disease, it is, in my opinion, the most reliable. My treatment is as follows: The moment the throat begins to become affected, I administer to a child, say of about six years of age, ten minims of the sulphurous acid, with a small quantity of glycerine in water, every two hours, and I direct the sulphurous acid spray to be applied every three hours to the fauces for a few minutes at a time, by using the pure acid, in severe cases, or equal parts of the acid and water, according to the severity of the case. Sulphur should also be burned in the sick chamber half a dozen times a day, by placing flour of sulphur upon a red hot cinder, and diffusing the sulphurous acid vapor through the room, until the atmosphere begins to become unpleasant to breathe.

"In the worst cases, where medicine cannot be swallowed, this and the spray must be entirely relied upon; and the dark shades which collect upon the teeth and lips should be frequently laved with a solution of the liquor potass. permanganatis of the strength of about one drachm to six ounces of water, some of which should be swallowed if possible.

“In cases presenting a diphtheritic character, the tincture of perchloride of iron should be administered in rather large doses in a separate mixture with chlorate of potash, and equal parts of the same with glycerine should be applied locally, with a camel's hair brush several times in the day; but, as in the majority of cases among children, it is next to impossible to use a local application more than once, the spray and permanganate solution will then prove of great service.

“As to other remedies recommended by various authors, ammonia is nasty, and cannot be taken well by children; carbolic acid has the same fault, and cannot be applied properly. Gargles are also useless in children, because they seldom reach the diseased surfaces, and warm baths and wet sheet packing are dangerous, because they are never carried out properly in private practice. The hypodermic injection of pilocarpine is a remedy that may give good results hereafter, but I have had no experience of its use.”—*British Medical Journal*.

BLOOD GLOBULES.

In man the average volume of a red globule is said to be Omm. c. 000,000,072. According to Vieuvordt and Welcker, a cubic millimeter of blood contains about 5,000,000 red globules. The blood of women contains less. In ten liters of blood the number of globules would be about 50,000 milliards; and the superficies of these globules has been said to be 2,816 square meters. More or less, there is one white globule to 350 or 500 red globules. A cubic millimeter of blood would count about 8,000.—*Wurtz, Chimie Biologique*.

THE New York Policlinic has had one hundred and twelve physicians studying in the various classes since November 7th, last, and two thousand five hundred patients have been treated in the Policlinic building within this period.—*Medical News*.

Items.

The Twenty-fourth Annual Commencement Exercises of Chicago Medical College were held at the Grand Opera House Tuesday afternoon, March 27, 1883.

The exercises included the Secretary's report of the year's work, the announcement of prizes, the conferring of degrees and charge to the class by Rev. Joseph Cummings, President of the University, and a valedictory address for the class by Dr. Geo. W. Post. The programme was pleasantly interspersed with music, and was attentively appreciated by a large audience.

Ten prizes for excellence in several different senior branches of instruction were awarded to Doctors N. S. Davis, Jr., E. G. Exler, J. E. Henderson, G. W. Post, J. T. McAnally, F. P. Peck, Chas. Davison, H. E. Burbank, James Mills and W. H. Graves.

Four prizes for excellence in anatomy and anatomical work were awarded, respectively, to Messrs. Wm. Elliot, Theo. H. Swayne, H. S. Frothingham and S. P. Black.

Dr. N. S. Davis, Jr., received the Alumni Prize for the best average scholarship in all studies, and Mr. A. C. Helm received the Edwards' Prize for best average scholarship in Junior and Middle studies. The Bullock and Grunow Prize for best examination in microscopy was awarded Dr. E. G. Exler.

The customary banquet to the graduating class and alumni was given at the Leland Hotel in the evening. It was well attended and highly enjoyed by all present.

DEATH OF THE SURGEON GENERAL.—Order From the General of the Army on the death of Dr. Joseph K. Barnes.

The following order was issued from the head-quarters of the army, Adjutant General's office, Washington, April 5:

Brevet Major General Joseph K. Barnes, Brigadier General of

the U. S. Army (retired), late Surgeon General of the Army, died at his residence in Washington at 2 o'clock this morning. He entered the service as Assistant Surgeon, June 15, 1840; was promoted Surgeon, with the rank of Major, on August 29, 1856; Medical Inspector, with the rank of Lieutenant Colonel, February 9, 1863; Medical Inspector General, with the rank of Colonel, August 10, 1863; and Surgeon General with the rank of Brigadier General, on August 24, 1864. He was retired from active service by the operation of the law of June 30, 1882. He served with distinction in the Florida war against the Seminole Indians, in the war with Mexico, and in the war with the States in rebellion. For faithful, meritorious and distinguished services in this last war, the brevets of Brigadier General and Major General of the United States Army were conferred upon him.

He was eminent, skillful and successful in his profession as surgeon and physician, and distinguished for great administrative ability, as the head of the Medical Department. He inaugurated the medical history of the war. He founded the Medical Museum and brought the Medical Department to the highest state efficiency. During the troublous times of the late war he earned the unbounded confidence of the Secretary of War, Mr. Stanton, and held it unbroken to the last. At the time of the assassination of President Lincoln and the attempted assassination of Secretary Seward, he attended the death-bed of the one and ministered with untiring energy and skill to the successful restoration of the other. So during the long illness of President Garfield, he was one of the distinguished surgeons of the land, who for days and nights served with devoted duty in the sick chamber of the dying President. During these long protracted hours of anxiety and care his own health gave way, and from that moment to the time of his death he was an invalid. His career was one of honor to himself, and of great service to his country.

By command of General Sherman.

R. C. DRUM, Adjutant General.

PROFESSOR HUXLEY has been appointed the Rede lecturer at the University of Cambridge for the ensuing year.—*Medical and Surgical Reporter*.

HOW THEY MAKE "COD-OIL" AT SWAMPSCOTT.

The Edinburg Medical Journal, February, 1883, thus describes one of the important though unsavory interests of a neighboring watering place. Swampscott is a little town upon the coast of Massachusetts, not far from Lynn, situated near the head of a bay between Nahant and Salem, off this ancient haunt of fishermen, at a distance of about nine miles.

It is a place called the "Rocks" where in winter, the codfish come in shoals to spawn, and the striped bass sport themselves in summer. During the winter months, be the weather what it may, unless the wind be rising for a gale, a little after midnight men may be seen going about the village, stopping here and there at houses, rousing the fishermen, who, by and by gather in groups about the shore, each with his "dory," that well-known model of Yankee ingenuity which at the great Berlin fishery exhibition excited so much attention. The dories and their owners are soon aboard the various schooners in waiting, and by five A. M., the fleet is at the "rocks;" so, when the day-light is sufficient, the the dories anchor about their respective larger craft, each boat with its single occupant, who is soon hard at work robbing the sea of its life. About three P. M. the signal is given from the schooner to come aboard; the dories hasten to their floating castles, with pitchforks the various "catches" are soon thrown aboard, and sail is made for home. During the passage the fish are gutted, the entrails cast into the sea, and the livers, some of them large enough to fill a quart mug, are put into baskets. When the shore is close at hand, the fish are again put into the dories; but the roughness of the sea is such that these boats, when loaded, cannot land, and into the icy sea-water the horses are driven until the carts reach such a place that the codfish can be put into them, when off they go, to plod the night through for the early Boston market. The livers are immediately sorted over and the gall bladders carefully removed. The great luscious flabby masses are thrown into a large oak tub; with this are connected steam pipes. When the receptacle is full and closed, low pressure steam is turned on, and for about two hours and a half cooking goes on. Then the plugs are taken out at the bottom, and the hot oil streams into buckets. It is now placed in butts

in the cooling-room, and allowed to stay there until it freezes solid. So it is kept until opportunity offers, when it is put into canvas bags holding about four gallons each. These bags are then placed regularly upon a heavy oak table provided with outer grooves for conducting liquid, until twelve gallons are in a row. On this is laid a slab, then canvas bags, and so layer after layer, until about eighty gallons are piled up. A ton of pig iron is then placed upon the top slab of oak and the oil begins to flow out. In about twelve hours dripping ceases, and the apparatus is taken apart. Inside the bags is found a yellowish butter-like mass as hard as tallow, which is nearly pure stearin, with liver debris and fibers. This goes to the soap makers while the oil finds its way to the Massachusetts general hospital and other places where the superiority of the finest American oil over the Norwegian is recognized.—*Boston Medical and Surgical Journal*.

COOK COUNTY HOSPITAL.

The following gentlemen began their service as attending physicians April 1st:

Surgeons—Drs. Hutchinson and Whitney.

Physicians—Drs. McWilliams and Buchan.

Obstetrician and Gynæcologist—Dr. DeLaskie Miller.

Ophthalmologist and Aurist—Dr. Jacobson.

Doctors Shaver and Wood began their duties as Internes. Doctors Fordyce and Hammon finished their terms as House Physician and Surgeon respectively; Dr. Fordyce commences practice at Hot Springs, Arkansas; Dr. Hammon remains in Chicago.

Hospital Clinics are as follows:

Monday, 2 p. m.—Pathology, Dr. Fenger.

Tuesday, 1:30 p. m.—Medicine, Dr. McWilliams; 2:30 p. m., Surgery, Dr. Whitney.

Friday 2:30 p. m.—Surgery, Dr. Hutchinson.

The new pavilions adjoining the present buildings are roofed, and expected to be ready for occupancy in May. The plan of their construction is essentially that of those now occupied.

Cases of pneumonia and erysipelas have been abundant during the spring; there has been no hospital epidemic.

The examination for graduation of the Training School for Nurses will be held April 19th. It will be written, and not a public occasion.

The list of examiners is not yet complete, but invitations to examine have been sent to men of acknowledged ability. The demand for nurses exceeds the supply, and but few will be available for duty.

ILLINOIS STATE MEDICAL SOCIETY.

The Illinois State Medical Society will meet in Peoria, Ill., on the third Tuesday in May, 1883, at ten A. M. The reunion usually continues for three days. The following is a

LIST OF THE STANDING COMMITTEES.

Practice of Medicine:—N. S. Davis, of Chicago; B. M. Griffith, of Springfield; J. F. Todd, Chicago.

Surgery:—J. E. Owens, Chicago; J. T. Stewart, Peoria; M. Reece, Abington.

Obstetrics:—E. L. Herriot, Jacksonville; G. W. Jones, Danville; E. A. Ingersoll.

Gynæcology:—David Prince, Jacksonville; C. Chenowith, Decatur; E. S. Norred, Lincoln.

Ophthalmology and Otology:—S. J. Jones, Chicago; J. P. Johnson, Peoria; J. G. McKinney, Barry.

Drugs and Medicines:—T. J. Pitner, Jacksonville; Herbert Judd, Galesburg; P. H. Garriston, Macomb.

Necrology:—E. Ingals, Chicago; William Hill, Bloomington.

SPECIAL COMMITTEES.

Simple Renal Catarrh:—I. N. Danforth, Chicago; Washington West, Bellville.

On the Practicability and Desirability of Separating the Work of Teaching in Medicine and Licensing to Practice:—D. S. Booth, Sparta; E. P. Cook, Mendota; M. A. McClellan, Knoxville.

The Diagnostic Peculiarities of Malignant Growths:—Christian Fenger, Chicago.

Analysis of a Certain Class of Remedies Concerning which Physicians are not Positive as to their Therapeutic Value:—W. L. Ransom, Roscoe.

COMMITTEE OF ARRANGEMENTS.

J. Murphy, Chairman; A. S. Adams, J. H. Reeder, J. P. Johnson, I. T. Stewart, T. M. McIlvain, *ex officio*.

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Original Communications.

ARTICLE I.

WHAT IS DISEASE? BY PROF. W. GODFREY DYAS, F. R. C. S.
(Inaugural Address delivered at the Woman's Medical College,
October, 1878.)

On an occasion like this, it may be expected that I should formally inaugurate the course, by a history of the rise and progress of medical science; range through, from remote periods, the intervening space to the present; detail views long since abandoned, and which have given place to others destined to share the same fate;—that I should traverse regions of error, unilluminated by a single ray of collateral science, and having toiled through the literary desert, felicitate myself that I had at length reached a point where sterility and darkness gave way to the gradual but steady unfolding of truth, as read in the bright light of day. But, even if my inclination prompted the inquiry, it would not be consistent with the plan I propose to pursue, which necessarily restricts me in the choice of my materials; nor would it conduce

to your interests, which may be much better served than by an enumeration of unprofitable theories. Yet I do not intend to say that an investigation of this kind would be wholly devoid of interest to those who have time and leisure to indulge in the review of past opinions, nor to affirm that many a literary gem may not reward a search among even the rejected matter and rubbish of our predecessors. The question which now, at the very threshold of a year of literary labor, chiefly interests us, is one upon the correct answer to which, much of your future success will depend. It involves principles of the deepest importance to you, when you become practitioners, and to your patients in their relation to you in that capacity, and it is one on which you should have well defined opinions, before you presume to deal with it practically. What is disease? is the subject of our inquiry. Is it an entity, superadded to the organism, and interfering with its normal functions? Or is it an effort at restoration of impeded or deranged functions, with a tendency to be salutary? Should the organism be capable of maintaining its conditions for existence during a rough, but well-meant intervention? Or is it simply a phase of life; is it the complement which, with what we call health, makes up and completes the idea of life? Should we adopt the first view, we look on disease as merely something that preys upon the organism, which, in that case, would be restored to its pristine health if this enemy were removed; and hence, we have numberless popular expressions based on this supposition, which doubtless emanated from our profession. This was the prevailing opinion. Subsequently, a more correct view was entertained. It consisted in looking on the morbid phenomena as the vital expressions of suffering organism; the result of a vital reaction to the injury sustained, and hence it was inferred that the duty of the physician was to assist this vital reaction, and aid it as a normal and physiological action. This theory embodied some truth, but the inference deduced was faulty. The first theory led to the employment of powerful measures, often more detrimental than the disease which they were intended to combat. The second favored an encouragement of disease. If, then, we wish to get a correct view of disease, we must look at it and health as two separate phases of the phenomena we term life;

and we must consider the relations that always exist between living organized bodies, and the agents which influence them in the manifestation of these phenomena.

As we proceed from the simplest to the most complicated organization, the susceptibility to the action of a stimulus is the cause of living action, through all the states of animal life. It is simply a mode of being of matter, depending on the placing of molecules in certain relative positions. It is not necessarily dependent on the agency of a nervous system; we see it in animals in which such a system does not exist. We see it present itself under various forms, as regards muscle, gland or nerve, each receiving an impression when subjected to a suitable stimulus. In the more elaborate organisms, we observe a coördination of these several impressions, uniting them in consent and accordance, principally, if not altogether, through the intervention of a nervous system, and forming, as it were, one consentient whole of the several and apparently dissimilar organs. So long as, during the never-ceasing change of the molecules of matter, vital reactions take place with ease and accuracy, there is health; the moment they cease to observe conformity to the laws of their existence (which are as much impressed on them as the attraction of gravity on dead or inorganic matter), and that they are marked by want of exactness, owing to the action of abnormal stimuli, there is disease. Beyond this, we cannot carry our inquiries. It is idle to attempt to reason as to the determining causes of these actions. They lie far beyond the range of human contemplation. The several stimuli themselves are subordinated to our reason. On them, we may legitimately speculate.

Heat, air and aliment—the necessary stimuli in the production of living actions, may range within variable, yet, as regards individual organizations, certain bounds, consistently with health. Beyond these, they give rise to a manifestation of a more prolonged and intensive series of changes, with a view to the maintenance of the well-being of the organism under the superinduced and novel condition. These changes, then, constitute what we call disease. They tend to the restoration of health, and only fail from the powers of the organism being inadequate to the completion of the necessary cycle of organic changes. Under

these circumstances, the duty of the physician is twofold. On the one hand, he has to maintain the powers of the organism; on the other, to modify the newly developed process of nature. His capability of effecting the former cannot be disputed. It is a matter of daily observation, proved by supplying or withholding the normal stimuli necessary to the continuance of the several functions. But can we modify a newly developed process of nature? Analogy would lead us to suppose so; for as nature, under its other numerous phases, admits of modification at the hands of art, it is reasonable to infer it may not find an exception in not being amenable to our art, when under the well-directed and skillful guidance of science. Besides, what reason in this respect suggests, seems confirmed by the daily experience of the profession in the action of certain medicines, whose efficacy is incontrovertibly established. None can question the efficacy of quinine in malarious disease, nor of mercury and iodide of potash. It is true, that in some diseases our efforts are restricted within narrower limits. In the specific fevers, for instance, that run a definite course, we have little else to do than, as Watson expresses it, "to see that nature has fair play, to redress some untoward deviations from the regular course, or to facilitate and fortify the natural recuperative efforts." Yet, in fulfilling these general indications, we may materially contribute to a favorable result, by subduing the morbid temperature through the medium of cold applied generally and locally, and by sedative doses of quinine and bromide of potassium.

Whilst thus glancing at that part of medicine termed therapeutics, I cannot avoid acknowledging how defective it is, when compared with our diagnosis and prognosis of disease, notwithstanding all the time and learning that have been bestowed in the discovery and application of remedies. Yet, on reflection, we cannot help seeing that, from the very nature of the subject, it cannot be otherwise. In dealing with it we have not, as in the diagnosis of a case, an assemblage of signs and symptoms to estimate individually and in combination, and compare together, supported as they are by a knowledge of morbid anatomy and pathology. On the contrary, to a great extent, we must be content to glean in the field of empiricism, where, though the labor-

ers are many, their capacities for judging of the materials they gather, differ as much as the minds and dispositions they bring to the task. Again, whilst administering medicines for some particular malady, complications previously latent will come to the surface, frequently, it may be, developed by our well-meant efforts to remove the original disease, and give rise to more serious morbid phenomena than those they were intended to combat; thus leading us astray in regard to the efficacy of the means we use. Besides, the features of a disease are constantly varying, those of any two cases never being exactly alike, and thus we never, in any two consecutive cases, apply our remedies under precisely the same conditions. Another source of error in therapeutics, must be attributed to the loose mode in which we daily express ourselves, using terms that imply our acquiescence in theories, some long since exploded, and others, though still entertained, yet having no real foundation either in facts or sound deduction. We speak of the elimination of poison, and the purifying effects of certain remedies; and if we limit these terms to operations on the organism, where mineral poisons are in question, I will not dispute the propriety of the language used. But I deny that it is suitable when applied to diseases that result from organic poisons. In this latter case, a permanent effect has been left, that militates with the notion that a something has been removed, leaving the organism as it was before—as if simply a poison had been cast out. Again, we read of zymotic diseases. This dogma of zymosis rests on uncertain grounds. A zymotic disease is one supposed to be produced by some morbid principle acting on the system as a ferment. Do we see in the phenomena of fever anything characteristic of fermentation? Certainly not. Besides, the theory is based on the assumption that the first morbid movement in fever commences in the blood. It may be so. But where is the proof? In such cases, the first intimation of perverted function is supplied by the nervous system. When we speak of the initial chill of fever, we use correct language; we thus express the disturbed function of the nervous centers, that ushers in the sequence of morbid and specific processes that constitute the disease.

But, though I acknowledge therapeutics to be the most vulnerable point of our position, yet let me not be supposed to have any intention of conveying the false notion, that the diagnosis of disease is brought to perfection. That would imply a perfect physiology, and still more a pathology as well established as a fixed science. These desiderata, I need scarcely say, are unattainable. In some forms of disease, where we have physical signs coming to the aid of symptoms ; where, in a word, the subjective and the objective are conjoined, as in affections of the lungs and heart, we have unusual facilities, when guided by a ripe experience and sound judgment, to form a creditable and satisfactory diagnosis. The same observation will justly apply to certain instrumental appliances which we have more recently availed ourselves of, to aid us in our researches. The sphygmograph, the laryngoscope, the aspirator, the thermometer, have now their place, and to considerable advantage, in the armamentarium of the practitioner. But, on the other hand, in other forms of disease, in cerebral affections, for instance, where we apparently have opposite conditions of a part, producing the same morbid phenomena, different lesions causing the same symptoms, the seat of disease being the same, we are compelled to acknowledge we have much still to learn, before we can in every case, with perfect satisfaction to ourselves, or the greatest amount of profit to our patients, proceed to treatment.

Whoever, for a moment, considers the varying and uncertain estimation in which remedial means are from time to time held, will hesitate to give his adhesion to views in connection with them, merely because their employment is due to the capricious taste of the day. He must examine for himself, as well as entertain the suggestions of authority, uninfluenced by the ruling of any arbitrary and passing fashion ; and he must endeavor, in each case, to refer their action to some sound scientific principle. And now, before I proceed further, let me impress on you the fact, that anything in our profession that is not based on science, must be received with suspicion. I do not mean to say, that I would reject a remedy, the undoubted efficacy of which our individual experience and that of others testify to, until we can satisfactorily and on scientific grounds receive it ; until, in short,

we can place it in a suitable niche in the temple of science. Nor should we ignore morbid manifestations as signs and symptoms of disease, until we can interpret them according to the notions of our philosophy, and the doctrines of our schools. But on the other hand, we must guard against a facile assent to new views not in accordance with science—often in positive opposition to its teachings. We must avoid being “carried about by every wind of doctrine.” At all times in our profession, as well as in concerns of more momentous import, innovations, “falsely termed science,” have crept in, which have charmed, by their novelty, half-educated people, whose erudition, scanty and slender at the best, was not directed by a sound or logical mind. For the most part their success has been fleeting and evanescent, scarcely surviving the term of their novelty. Other fallacies have, however, for a longer time succeeded in enchaining the minds of men, introduced as they have been, with all the circumstances of plausible argument, and the semblance of being reduced to a principle. The most noted of these owes its importance to an apostate member of our profession, who, being in his early days unsuccessful in practice, revived a dogma that had been enunciated and maintained in the 6th century by Gregory the Great. The dogma *similia similibus curantur* therefore lacks even the quality of novelty. This exploded tenet—this fallacy of ungrounded persuasions can easily be discovered and unmasked by the enquiry of a mind of even moderate comprehension, and can be exposed as either a miserable delusion or a culpable imposition. The advocates of orthodox medicine do not mean to assert that their own system is free from defects, but they do not hesitate to state that they rest its merits on the broad basis of acknowledged science. It is not cramped by any spurious doctrine, but invokes the aid of all knowledge, whether obtruse or obvious, and owing to this it has had the sanction of the learned for centuries.

For didactic purposes it has always been desirable to have some system of nosology. Distinguished physicians have at different times laid down systems, so-called, of disease all of which have by their successors been found defective and have been replaced by others not more fortunate in securing the favor

of the profession. When you consider the basis on which each system was raised; that such was in accordance with the received opinions of the day in regard to science, and that this in every department was undergoing modification from additional light shed on it, you cannot expect that the superstructure could remain together on a foundation so unstable. We cannot, nevertheless, dispense with order, and in furtherance of this we must have some system—some assemblage of the constituent parts of a subject into a general whole, wherein the connection or mutual dependencies may be seen without much effort of the understanding. With this view the best arrangement we can adopt will always be that founded on a physiological basis, in which the diseases of the respective functions of the animal frame are connected in classes derived from those functions, and follow each other in the order in which physiologists have usually treated of them. After all, Nature, infinitely varied, will not bend herself to an intelligence which can but assign bounds and make divisions. You cannot reunite the double advantage of requisite precision in details, and at the same time clear philosophical views as regards the several phenomena, morbid and normal of the organism. You may remark that in medical literature we draw largely on the Greek language for a nomenclature of medicine, and we assume that those who enter our profession have not only already had some acquaintance with the rudiments of the ancient classics but have acquired a competent knowledge of that branch of learning. I have often heard men—uneducated men, always—say, “What have the classics to do with the practice of medicine?” I would reply, certainly none directly—much, however, indirectly. And I take this opportunity to express my deep regret at the great falling off, of late, in the preliminary education of the alumni of our schools. To such an extent has this decadence of our profession been carried, that some of our graduates have been unable to translate their own diplomas, and that many cannot muster sufficient knowledge of their mother tongue to publish their cases. The time was when a physician from his superior education and resulting refinement, was the fit associate of all that were elevated in society; the literary title affixed gave him access to and acceptance by those distinguished

by position and culture. Now the same title is often calculated to excite a smile, conferred as it is so frequently on men who are below the lowest grade of mechanics. The greatest evil to which, in the present day, our profession has been subjected, is the annual intrusion into its ranks of hordes of uncouth and uncultured persons. How far this disregard of preliminary education is beneficial to colleges or calculated to increase the fund from fees paid for diplomas, is just now foreign to my subject.

Our profession is now so degraded that it is rare to find men capable of reading any medical work not written in their vernacular language. In this city, containing so many Europeans from countries of various tongues, it is necessary for a physician to be acquainted with the Latin language. It has been for centuries the great vehicle of knowledge amongst the learned of civilized nations. It has conveyed to us the traditional literature of our calling. Some of our best apothecaries are foreigners, all of whom possessing a qualification from the licensing bodies of their respective countries have a competent knowledge of Latin, and can, with ease, comprehend our wishes expressed in that language, but who often find much difficulty in understanding us when we write in English. It is also desirable that you should have at least such knowledge of German and French as will enable you to read, in the original, works published in these languages. The perusal of a book in the words of an author, is generally a very different thing from a translation of the same, no matter how excellent the version may be.

In conclusion, I must observe, few studies take so wide a range as ours. To acquire a perfect knowledge of physiology—if such be possible—we must be acquainted with the properties of the material world by which we are surrounded, and of which our frames are formed. We must know the laws that regulate the forces of matter; for we are not exempt from these laws. All the subtle agencies of nature, gravitation, electricity, heat and light, all influence more or less and modify our condition. We may be well versed in the anatomy of the eye, but unless we know something of the laws which govern the refraction of light, we are unable to appreciate the adaptation of means to ends in the construction of the organ. Again, we may have a perfect

knowledge of every structure entering into the formation of the ear, but unless we know the cause, nature and phenomena of sound, our anatomical knowledge is a barren and unprofitable possession. The same observation will apply to the larynx—that wonderful apparatus for the production of the tones and inflections of the voice.

I now close with the words of a distinguished member of our profession, who has recently passed away from us: “In contemplating the living man, we regard not only his wonderful material fabric, but we see him endowed with faculties, which the laws of nature cannot explain—a creature of intelligence, with a moral sense, judging of right and wrong, and with a hope of a future and higher existence. And since we find that in the material framework, every part is perfectly adapted to its end, and to man’s wants—the eye for sight and the ear for hearing,—and is perfectly suited both to the material things around, and to man’s intellectual and moral nature; that considered in reference to the world without and the world within, it is perfect and complete, we may naturally infer that the intellectual and moral powers and capacities which make up the inner man—which are perfectly suited like the bodily organs to the material things around, but which are confessedly unsatisfied with their relations to them—that these faculties and powers have other and higher relations in a different sphere; that there is a completeness and a wise purpose in every faculty of the mind, as there is in every part of the bodily frame, and that the desire therefore of a future and higher existence has not been implanted in us in vain, and that the promise of it given to the heart will not be broken.”

ARTICLE II.

COUGH OF REMOTE ORIGIN. BY W. E. CASSELBERRY, M. D.,
Physician to the Throat and Chest Department of the South
Side Dispensary, Chicago Medical College.

Involuntary cough is a reflex phenomenon, produced by irritation of certain peripheral ends, branches, or trunks of the pneumogastric nerve. The impression conveyed to the cough

center, said to be located at the point of origin of the pneumogastric nerves, in the medulla oblongata, produces therein a reaction, which manifests itself by the spasmodic action so well known as cough—a full inspiration, closure of the glottis, and forcible expulsion of the pent up air under contraction of the expiratory muscles and diaphragm.

The several localities in the distribution of the par vagum from which cough can originate, for clinical consideration, may be classed in two divisions, viz., those within, and those without the respiratory mucous tract.

With the first division, which for contradistinction, we may designate as coughs of proximal origin, we are not specially interested in this paper, farther than may serve to elucidate our subject proper. To this end, we will mention the “cough spots” of Stoerk.* This highly original Viennese professor has experimentally demonstrated, under laryngoscopic observation, that there are certain “spots” in the respiratory tract, any irritation of which will, with certainty, cause cough; namely, the interarytenoid fold, supplied by the internal branch of the nervous laryngeus superior, the posterior fibrous walls of the larynx and trachea, and the bifurcation of the trachea, supplied through branches of the nervus vagus. These observations are confirmed by Lennox Browne, of London.† From a more clinical standpoint, Stoerk‡ includes the bronchi and bronchioles as cough areas; but from both experimental and clinical observations, excludes the lung parenchyma, disease of which, he maintains, does not cause cough unless accompanied by bronchial congestion, irritation or inflammation.

The second division of the subject includes coughs originating without the respiratory tract—those in which the exciting cause is more remotely located—in the alimentary canal, heart, medulla oblongata, etc. The present is an age of instrumental precision in medical science, and we are prone to overlook the more intangible ætiological influences. The once common “stomach cough” is now a hackneyed diagnostic phrase, relegated to the

*Klinik der Krankheiten des Kehlkopf der Nase und des Rachens, S. 220.

†Diseases of the Throat.

‡Op. cit.

ranks of the superannuated, quack and unprofessional. At its mere utterance the scientific physician (especially the younger generation) involuntarily shrugs his shoulders, proceeds to use his laryngoscope and auscult the patient. We see only with our mirror a laryngitis or tracheitis and hear the evidence of a bronchitis or more serious lung trouble.

A recent case has brought this subject to our attention, connected with which are points we wish to suggest thought upon rather than hope to entirely elucidate.

Mr. A., an active business man in the prime of life, had complained of cough for a year or more, better at times and again worse, apt to occur in severe paroxysms, but usually annoying him also in a more continuous form. He had had an occasional tickling sensation, but complained more of a sore, raw feeling in the larynx. During this time he had suffered constantly from dyspepsia with uncomfortable sensations or actual pain after eating, acid eructations, occasional vomiting, constipation and anorexia. A paroxysm of cough was at times terminated by an attack of vomiting. He had undergone various treatments, had consumed quantities of cough mixtures, homœopathic pellets, and proprietary remedies.

We saw the patient first in Oct., 1882. He was somewhat emaciated, pale, and nervous about himself, laid particular stress upon his cough, and disregarded his dyspeptic symptoms as a matter of little consequence. Laryngeal examination disclosed a slight reddish yellow discoloration of the vocal cords, and redness of the arytenoid cartilages, indications merely of a light chronic laryngitis. The trachea was somewhat congested. There was considerable follicular pharyngitis with congestion of the anterior pillars of the fauces, and slight thickening of the submucous connective tissue at the angles of the pharynx, behind the pharyngo-palatine folds. Physical examination of the chest gave no evidence of bronchitis or disease of the lungs.

The treatment consisted of a careful regulation of the diet, an occasional laxative, and 1-20 grain strychnia sulphate before each meal. Inhalation from the atomizer of tannic acid solution twice daily, occasional intralaryngeal applications of nitrate of silver solution, 20 grains to the fluid ounce, and local treatment for the

follicular pharyngitis. The patient improved rapidly, gained much in weight and appearance, the cough disappearing *pari passu* with the improvement in the dyspeptic symptoms, both cough and dyspepsia having vanished at the end of six weeks. At this time the laryngoscopic appearances, however, were practically the same as when first seen. The arytenoid cartilages were, perhaps, not so red, but the cords remained unchanged. Treatment had benefited the follicular pharyngitis, some of the larger follicular eminences having been destroyed by means of the London-paste, and others by nitrate of silver. The patient at this time is still well, but by advice continued to regulate his diet carefully and take occasionally some strychnia pellets, which act also by keeping his bowels in proper order. Meeting him a few days since in a street car, he remarked: "Doctor, my throat continues to behave itself beautifully." And upon query in reference to his dyspepsia, he remarked, that that too was all right.

This case we regarded from the first as one of reflex dyspeptic cough, or "stomach cough," if we may be permitted to use the expression. The duration and severity of the cough were out of all proportion to the small amount of laryngeal inflammation present, and its severity appeared to go *pari passu* with the severity of the dyspeptic symptoms. Its paroxysmal character, also, was too marked for a purely laryngeal cough, and the cessation of a paroxysm upon an attack of vomiting, was very significant. Moreover, the patient's impaired nutrition, in the absence of any chest symptoms, indicated his digestive organs as the chief cause of trouble. True, there was some chronic inflammation of the larynx, but apart from the fact that three-fourths of the people living in certain climates and seasons suffer from slight laryngeal catarrh, the cough in this case was sufficient to produce irritation, and the sensation of soreness and rawness complained of, I presume to have been muscular and directly caused by the cough. Finally the entire subsidence of the cough with the very slight change in the larynx, agrees as to the correctness of the diagnosis.

Acid eructations will aggravate or cause pharyngeal irritation, which may extend thence into the larynx, especially to the ary-

tenoid cartilages and interarytenoid fold ; or these portions of the larynx which form the anterior boundary of the pharynx as it merges into the œsophagus, may be affected by direct contact with the eructated acid material. Such an action was entirely probable, to some extent, in the case related, as the arytenoids were the only laryngeal portions which improved. In view of this same interarytenoid fold being one of the "cough spots" of Stoerk, its irritation in this way might be said to explain the entire gastric nature of the case, and any nervous influence be denied. Such an exclusive view of the case we do not believe, however, to be justified by an analysis of the symptoms.

The English-writing specialists have little or nothing to say relative to the subject, but *apropos* we will quote from Stoerk :*

"Through the experiments of Mayer and Pribraur,† supported by the observations of Traube and Henoch, the question of the so-called stomach cough, has appeared in a new phase. The older school of medicine, which looks upon disturbances in the digestive tract, especially collections of gas in the stomach and intestines, as etiological factors in many pathological states of the respiratory organs, has, in true presentiment, recognized a certain association between affections of the stomach and cough thus appearing reflexly, and has designated this cough as stomach cough. We must admire these observations, rendered certain, as they are, by more recent experiment. It is a known and much observed fact, that many violent and long enduring paroxysms of cough end with vomiting and find their termination through the same. One can assume now that the cough is caused by irritation of the terminal ends of the pneumogastric nerve in the stomach, exactly as it happens from certain 'spots' in the respiratory tract."

It is possible for a dyspepsia to supervene upon a pharyngitis, that is, the sequence of events is reversed, a primary pharyngeal catarrh, producing reflexly gastric disturbance. But this is apt to occur only in the most advanced stages of pharyngeal and naso-pharyngeal catarrh.

* Klinik der Krankheiten des Kehlkopfs der Nase und des Rachens, § 223.

† Sitzungsberichte der K. Academie der Wissensch B. 66 Abath. 3.

The stomach, although one of the most common, is not the only remote source of cough. We would use this instance but as a text for the whole subject.

Diseases of the naso-pharynx and pharynx, goitre, aneurism of the aorta, innominata and carotids. Cardiac affections, cervical or mediastinal lymphadenitis, œsophageal disease, in fact, disease of any organ involving one or more branches of the pneumogastric nerve.

Charcot mentions cough and dyspnœa among the symptoms of compression of the upper part of the spinal cord (Stoerk),* possibly due to involvement of the cough center in the medulla oblongata.

Aurists frequently observe cough arising from irritation of the inferior wall of the external auditory canal and of the pharyngeal opening of the eustachian tube—in the former case to be attributed to involvement of the auricular branch of the pneumogastric, in the latter case to the pharyngeal branches and plexus.

Cohen† and Robinson‡ both remark, that impairment of the voice and cough may occur in follicular pharyngitis without any visible implication of the larynx, “apparently by extension of the nervous influence of the pneumogastric nerve.” This is frequently observed with public speakers. Enlarged tonsils, too, are a prolific source of cough in children. Goitre and other cervical and mediastinal tumors occasion cough, which is probably at times remotely reflex, from pressure or other involvement of the pneumogastric trunk or its branches. In accordance with a general physiological law, reflex cough is, however, more easily excited by irritation of peripheral nerve ends. Nevertheless, numerous German experimentors (Stoerk§) have succeeded in exciting cough by irritation of the trunkal portions of the pneumogastrics.

Carotid aneurism can act in the same way—as a tumor. The nervus laryngeus recurrens being exclusively motor in function

* Op. cit.

† Diseases of the Throat and Nasal Organs, p. 182.

‡ Nasal Catarrh, p. 132

§ Op. cit.

and therefore composed entirely of centrifugal fibers, it is decidedly improbable that its compression by aneurism of the arch of the aorta, or of the right subclavian, could produce a reflex cough, although cough is a most common symptom in these cases. Still it is not to be understood that in *all* cases of aneurism and of cervical and mediastinal tumors the cough is remotely reflex, for it may be due to direct compression of the trachea or a main bronchus, in the former case easily demonstrable by the laryngoscope, and in the latter by physical examination. Compression near the bifurcation would irritate the "cough-spot" at that point, and the cough be thus explained.

Functional and organic cardiac derangements are frequently accompanied by troublesome cough, but how much of purely nervous influence is concerned in these cases, would be difficult to say. As pointed out by Dr. Beverly Robinson in a paper read before the American Laryngological Association,* congestion of the larynx or entire respiratory tract with cough and other symptoms is not an uncommon result of debilitated or deranged cardiac action. Chronic interstitial nephritis, cirrhosis of the liver, spleen, etc., likewise by rendering the heart *relatively* weak, bring on congestive cough.

Thus we see occasioned another and partially distinct class of coughs, which, including in the same category cough produced by pressure upon the trachea or bronchi, may be said to arise directly from a proximal cause and yet be traceable to a remote origin.

As regards diagnosis little need be said. That little, however, must be said in testimony of the efficacy of the laryngoscope. Its value in the precise diagnosis of laryngeal and tracheal diseases is well known, and its use among practical physicians rapidly becoming more prevalent. In the case just related, it served as a valuable aid to diagnosis by exclusion, demonstrating the absence of sufficient cause for cough in the larynx and trachea. To this end its use is almost a necessity in all coughs of remote origin. To the routine practitioner a cough is a cough to be met by the inevitable cough-mixture; whilst the physician

* Archiv. of Laryngology, vol. III. NO. 3.

of an "investigating turn of mind," he who looks his patient all over before prescribing, will easily discover the *fons et origo* of the symptom and treat accordingly.

70 MONROE ST., CHICAGO.

ARTICLE III.

THE PULSATION OF VEINS.

The classic venous pulse consists of a regurgitant wave. It is due to insufficiency of the valves of the veins and of the auriculo-ventricular valves of the right side of the heart. With this insufficiency, the ventricular systole causes not only a forward impulse to the blood in the pulmonary artery, but also a backward impulse to the blood in the auricle, vena cava, jugular, and even in more peripheral veins.

Formerly no other venous pulse was recognized, the presence of any pulsation in veins being considered pathognomic of regurgitation through the bicuspid valves. Two other varieties, however, exist. One of these varieties is due to a relaxation of the minute arteries, which relaxation allows a projection of the arterial waves through the capillaries into the veins.

In Bernard's experiment upon the submaxillary gland by irritation of the chorda tympani, the arterioles become dilated, pulsations may be seen in the capillaries, and the blood issues in jets from the vein.

Quircke has reported several cases of pulsation in the veins of the hand which ceased upon the compression of the artery, but upon the compression of the vein ceased only on the proximal side. Here, also, the arterial wave must have been carried through the capillaries, as in the experiment with the submaxillary gland.

Pulsatory movement of the venous blood may occur, therefore, from a forward impulse through the capillaries, and also from a backward impulse, which proceeds directly from the heart. The first is most marked at the periphery, and the second is most marked at the center of the venous system. Both, however, are

positively systolic in both; the wall of the vein rises at the same time as does the arterial wall. The third variety of venous pulsation is distinguished from those we have considered by the fact that it is negatively systolic. This venous pulse contracts with that of the artery in a prolonged ascent, and a descent which is abrupt; also in the fact that the descent of the one and the ascent of the other are simultaneous. The vein therefore falls while the artery rises, and rises while the artery falls.

The abrupt descent is in this venous pulse the feature which is most marked. Moss, in 1876 (*Die Diagnostik des Pulses*), named it the negative pulse of the veins.

Modern interest in the subject commences with this date.

In 1828, however, Hedmeyer reported pulsatory oscillations in the fluid of a tube, one end of which was emersed in water, the other end being inserted into the internal jugular of the horse.

Meyrich, in 1845, repeated the experiment upon dogs. He found the fluid to rise during the systole, and to fall during the diastole of the heart. According to Kallett (*Hermann's Hdb. du Phys. Bd. iv. Th. 1*), Meyrich ascribed the periodic ascent to the aspiratory influence of the auricle at the moment of its relaxation. Mosso supposed it to be due to a periodic increase in the aspiration of the thorax. The plethysmograph demonstrates that the heart occupies less space during its systole than during its diastole, also with a manometer in the mouth it has been noted that the mercury with suspension of the respiration falls during the systole and rises during the diastole of the heart. It was upon these data that Mosso's conclusion was based.

Gottwall, however, in 1881 (*Arch. f. d. Ges. Phys.*), with experiments upon dogs, found the pulse to persist after the opening of the thorax; he, therefore, considered it directly dependent upon the heart. Riegel (*Berl. Klin. Wochenschrift*, March 2, 1881), revised the theory of Meyrich. Relaxation of the auricle is synchronous with the contraction of the ventricle; the fall of venous pressure is, therefore, said to be synchronous with the systole of the heart. Riegel, in May of 1882 (*Deutsches Arch. für Klin. Med.*), issued a series of tracings taken simultaneously from the carotid artery, and from the jugular vein. These tracings corroborate that coincidence in time which has been referred to.

The ascent of the vein was proved to be diastolic, and the descent to occupy the time of the arterial percussion stroke. Francois Franck, in April of 1882 (*Gaz. Hebd. de Med.*), gave simultaneous tracings from the heart and from the vein. These tracings show further that the descent of the first smaller wave accompanies the relaxation of the ventricles. Following the cardiac cycle of events, he finds the ascent of the apex due to the accumulation of blood from obstruction to its discharge during the contraction of the auricle; the sudden descent to the aspiratory influence of the relaxation of the auricle; the small, descent to retardation from the loss of that influence; the descent to the aspiration of the ventricle, and the prolonged ascent to the gradual repletion of the whole right heart.

The literature of this subject has been comprised of the writings of Mosso, of Gottwalt, of Regil and of Franck.

By none of these experimentors has the pulse been obtained beyond the jugulars, excepting once by Gottwalb in a bronchial vein. Recently it has been obtained by Dr. Sarah E. Post, from Milwaukee. Also in veins of the forearm and in the foot (*N. Y. Med. Record*, Feb. 17, 1883). Dr. Post has not only traced this pulse farther per-pharally than has any previous observer, but she is also second only to Marcey in the registration of any kind of a venous pulse in the lower limb. It is interesting to note that the instrument used by Dr. Post is American in its origin and make. The lady concludes as follows: "The recognition of this pulse is important because it may be of sufficient amplitude to mark the trace of the arterial pulse, because it must be eliminated in the diagnosis of the pulse of regurgitation through the tricuspid valve and because it probably possesses a diagnostic importance of its own. Its recognition with the Pond sphygmograph is not difficult. Having obtained the radial arterial pulse, move the instrument about $\frac{1}{2}$ c. m. toward the exterior side of the arm, remit one-half the pressure, and if it be present its tracing will appear. Complaint regarding the unreliability of the Pond sphygmograph have originated in the fact that it so readily registers this pulse. Not being recognized it has been considered a vagary of the little instrument itself."

Abroad, this pulse is commonly called the normal venous pulse.

In the radial vein, Dr. Post considers it to have a pathological significance. As she has found it only in connection with venous engorgement from arterial relaxation, or from insufficiency in the heart, she supposes it to be extended and accented by that condition, when associated with sufficient cardiac power. It always disappears with the failure of the heart.

SKEPTICISM IN MEDICINE.—Certainly he who has not faith, and does not use in the spirit of faith, properly guided by proper consideration and an ever increasing experience, opium, ipecacuanha, mercury, arsenic, antimony, ergot, iron, zinc, phosphorus, bismuth and their preparations, chloral, croton chloral, aconite, belladonna, sp. eth. nitrosi, sp. eth. sulphurici, quinine, iodide, and bromide of potassium, and many other drugs, can never be a thoroughly successful practitioner in the curative results of his practice, nor can we believe him to be a happy one, if possessed of a conscience, since he must see many cases, that in other hands may do well, go from bad to worse, and end fatally in his. Instead of lowering the estimation in which our materia medica is held, increased knowledge is likely to carry it to a still more honored position, when the powers of each drug, from accurate observation, become more thoroughly defined.—*The Medical Press*.

A MICRO-ORGANISM FOR YELLOW FEVER.—*Peronospora Lutea* is the title of the Micro-Organism which Dr. Carmona Del Valle believes to be characteristic of yellow fever. The germ of this cryptogerm are always to be found in the excretions and in the fluids and secretions. Animals inoculated with it show febrile symptoms. After recovery they are not affected by a second inoculation.—*The Medical Record*.

DEATH OF A LEPROUS PATIENT AT SALEM, MASS.—Charles D. Erby, a leprous patient at the Salem (Mass.) Almshouse, who contracted the disease in the Sandwich Islands, and whose case has excited much apprehension, died there March 19th.—*The Medical Record*.

Society Reports.

ARTICLE IV.

REPORT OF PROCEEDINGS OF THE ILLINOIS STATE BOARD OF HEALTH. QUARTERLY MEETING, Chicago, April 12-14, 1883.

The regular quarterly meeting of the Illinois State Board of Health was held at the Grand Pacific Hotel, in the city of Chicago, the members being called to order by the President at 9:45 a. m., Thursday, April 12, 1883.

Present: Newton Bateman, LL.D., President, John McLean, M.D., R. Ludlam, M.D., A. L. Clark, M.D., and John H. Rauch, M.D., Secretary.

The regular order of business having been suspended, on motion of Dr. Clark, so as to take up the investigation of charges against a number of medical colleges and of private practitioners, the Board went into executive session for that purpose. At this session, which continued throughout the day and evening and was resumed for some time on the following day, action was taken on the charges against six colleges and seven individuals, and the following results were authorized to be made public:

Resolved, That the Indiana Eclectic Medical College, of Indianapolis, Ind., and the Joplin Medical College, of Joplin, Mo. having given assurances of their intention and determination to fully carry out and abide by all the requirements considered by the Illinois State Board of Health as essential to the good standing of a medical college, the diplomas of said colleges will be recognized in the future by this Board whenever, and so long as, it shall appear that their methods and practices entitle them to be classed among "medical institutions in good standing."

Resolved, That, under the recent decision of the Supreme court of the State of New York declaring the charter of the United States Medical College, of New York, null and void, this Board can no longer legally recognize the diplomas of that institution.

Resolved, That in the case of Dr. A. A. McReynolds, the Secretary is instructed to notify him that, unless the objectionable practices complained of are at once discontinued, his certificate will be revoked.

Resolved, That in the case of applications now pending for certificates on diplomas of the Indiana Eclectic Medical College, the Secretary be endowed with discretionary power to act for the Board.

Resolved, That the objections heretofore existing to the granting of a certificate to Dr. H. I. Hoppin³ having been removed, the Secretary is authorized to issue such certificate.

Resolved, That Certificate No. 2297, issued to Dr. William Keller, December 20, 1877, be, and hereby is, revoked.

Resolved, That Certificate No. 142, issued to Dr. M. Morgan, July 6, 1878, be, and hereby is, revoked.

The examination of candidates for certificates was begun at 10 a. m., and at 10:30 p. m., the Board adjourned until the following morning.

FRIDAY, APRIL 13, 9:30 a. m.—The Board met pursuant to adjournment; present as before. The regular order of business being taken up, the minutes of the sixth annual meeting, January 11–12, 1883, were read and approved.

Under the call for reports of officers, Dr. Rauch presented the following:

QUARTERLY REPORT OF THE SECRETARY.

During the quarter, ended March 31, 1883, there were received in the Secretary's office 1,002 communications, letters, reports, etc., and 1,371 letters, postals and other written communications were sent out. Of printed matter there were distributed 1,876 copies of the Fourth Annual Report, and 46,920 copies of the Preventable-Disease Circulars and miscellaneous publications, blanks, etc., of the Board. There were also received 57 telegrams, and 40 were sent, at a cost of \$20.30. The postage account for the quarter was \$144, and the express account \$6.70, for which latter sum 298 packages were sent.

CERTIFICATES AND LICENSES.

State certificates entitling to practice medicine and surgery were issued to 149 graduates upon the diplomas of colleges in good standing, and 3 certificates were issued to practitioners on length of practice in the State. Certificates to midwives were issued to 9 graduates, 2 practitioners, and to one upon examination. Six candidates presented themselves for examination in obstetrics, five of whom failed to come up to the required standard.

Two applications for the hundred-dollars-a-month license to itinerants, both from graduates of reputable medical schools, have been received, but I have felt constrained, in the interests both of the public and of the profession, to refuse the applications.

EXEMPTS AND NON-GRADUATES.

Among the certificates issued during the past month a considerable number were to practitioners exempt from the Medical-Practice Act, by reason of length of practice in the State, but who have recently graduated from reputable medical colleges; and also to others holding certificates based upon examinations, and who have pursued the same course. It is gratifying to be able to record this result of the recommendations of the Board, whose policy it has uniformly been to urge non-graduate candidates for its certificates to complete the regular curriculum of study, and obtain the diploma of a college in good standing. As nearly as can be ascertained there are now only about 650 non-graduates left in the State, as compared with about 3,800 at the time when the law went into effect.

THE MEDICAL-PRACTICE ACT AND THE COLLEGES.

While the public undoubtedly profits by this obvious improvement in the status of the profession, the medical colleges have also benefited in this, among other ways, through the operation of the Medical-Practice Act. To some extent this is recognized by the colleges themselves; and their reception of the Board's standard of minimum requirements may be taken as an evidence of their generally favorable attitude toward the law and the methods of its enforcement which have thus far been pursued.

Since the last meeting many letters have been received from colleges, both in this and in other States, asking specific information as to whether the Board would recognize diplomas if issued to certain students under the circumstances as detailed. A number of inquiries, both official and personal, have also been answered concerning the standing of colleges in various parts of the country, and the value of their diplomas in this State as entitling to practice. This correspondence marks an increasing sense of accountability in the teaching or educational department, and of its responsibility under the law. If this sense can be sufficiently quickened it may correct some of the evils arising from the want of an examining body independent of the colleges, and there is reason to hope for such result in the progress already made.

MINIMUM REQUIREMENTS OF THE BOARD.

I would suggest that the attention of the colleges be again invited to the Schedule of Minimum Requirements, which the Board will hereafter exact as a condition of recognition; and that a communication be authorized requesting them to furnish formal statements as to their action concerning the Board's standard.

Among other reasons why such a communication seems desirable, is the fact that evidences of colleges not complying even with their own published requirements are increasing in the Secretary's office. Proofs are on file that students are graduated without having studied the required length of time, or without having studied under a preceptor; who have attended only one course of lectures; who have attended two courses in one year, without the necessary reading period intervening; who were not 21 years of age at the time of graduation, and who, in general, are not at all competent to practice medicine.

While preparing this portion of my report, the following case in point presents itself: An official proceeding requires Dr. —, a graduate of one of the most popular and widely known colleges in the country, to detail his acquirements in pharmacy. He is asked what experience he has had in compounding medicines, and replies that he has had none.

"Did you not put up prescriptions under your preceptor while a student?"

"No, sir; I didn't have any preceptor."

"Why, I supposed that medical colleges required that their graduates should have read or studied medicine under a preceptor for three years. How did you get through? How did you graduate?"

"Well, I attended two courses of lectures, paid the fees and got my diploma."

An examination of the files in the Secretary's office, resulted in finding the following communication from Dr. —, received May 20, 1882:

—————, ——— Ill.

To the Secretary State board of health Dear Sir I sent you my diploma early last March and have not heard from it since did you receive it or do you know anything about it I am becoming quite anxious concerning its safety My diploma is from ——— Medical College ——— dated ——— 1882 I also sent you a letter containing a one dollar bill to pay for the certificate If you will give me the information I request I shall be greatly obliged to you

Your's very respectfully

————— M. D.

In the annual announcements of the college which issued this diploma, among the regular requirements for graduation one is stated to be "such primary education as is clearly requisite for a proper standing with the public and the profession;" and another that "he must have pursued the study of medicine three years." That the former requirement was ignored is obvious from the letter quoted; and it is probably doing no one injustice

to accept Dr. ——— statement—that he “attended two courses of lectures, paid the fees and got a diploma” as a full summary of his medical education, so far as the college was concerned.

As a result of my own official experience during the past six years, I think it entirely within bounds to say that a strict adherence to their advertised requirements is the exception among colleges rather than the rule. In fully three-fourths of those which have come under my observation there have been irregularities of more or less gravity. It is unnecessary to attribute motives, for they are obvious and the natural result of the competition and rivalry between the various schools. To make the acquisition of the coveted diploma easy is the sure way to increased pecuniary returns and large classes, with a consequent substantial advantage in advertising both the college and the individual professors.

That the responsibilities of the Board are largely increased by this evil is manifest. Charges are now being investigated involving five different colleges whose diplomas have heretofore been recognized by the Board; and in the case of three other colleges I have refrained from issuing certificates upon their diplomas, because of a conviction that they have not the facilities to carry out their published requirements. In one instance, for example, there have been a number of changes in the personnel of the faculty since the announcement was published, and the diplomas issued at the close of the session of 1882-3 bear the signature of a graduate of 1882 as the incumbent of three different chairs, namely, as professor of anatomy, as professor of physiology, and as professor of hygiene.

MEDICAL-COLLEGE ANNOUNCEMENTS.

Announcement literature, in itself, presents some features worthy the serious attention both of the Board and of the profession. Aside from its legitimate function as a medium of information to the student concerning his studies, the annual announcement, so lavishly scattered throughout the country, is often prostituted to advertising the college and the claims of individual members of the faculty, in terms and manner differing little, if any, from those of the ordinary advertising quack. In the course of the past six years I have carefully examined nearly all the announcements issued in this country, and do not hesitate to say that many of them are of such a character that if a private practitioner had been guilty of publishing a professional card, making such claims and couched in such terms, he would have been expelled from almost any medical society for a gross violation of ethics.

“UNPROFESSIONAL AND DISHONORABLE CONDUCT.”

While this subject of “ethics” is attracting so much attention, it would seem to be a fitting time for the Board to consider whether the granting of a diploma to an unqualified and incompetent person, or in open violation of the requirements of the institution, should not subject those concerned in it to the odium and disqualifications which attach to any other unprofessional and dishonorable action. It might be suggested that this is a

proper subject for the consideration of medical societies; but it seems to me that the Board may also fitly discuss the subject.

MODIFICATION OF AFFIDAVIT.

In view of our past experience of the evasions of many colleges, even of their own requirements, as well as of the requirements of this Board, I have to suggest that it would be well to modify the present form of the affidavit so as to require graduate-applicants for certificates to state whether the requirements of the individual college and of the Illinois State Board of Health, in the matter of medical education, have been fully carried out. Among other things, such modification of the affidavit would be of material assistance in enabling the Board to determine the good standing of colleges, as the law directs.

IMPORTANCE OF THE STUDY OF HYGIENE.

It may be mentioned that the only criticism on the Schedule of Minimum Requirements thus far received are in the nature of a suggestion that the usual college curriculum is already so full that there is no place for a chair of Hygiene. An examination of the different chairs and lectureships in many colleges reveals the fact that much time and attention are occupied by lectures and clinics on specialities, which, in many instances, are mere advertisements for the lecturer. A knowledge of Hygiene and Preventive Medicine is of far more importance to the general practitioner, as well as to the public, than such superficial acquaintance with many of these specialties as only is possible except in post-graduate courses. Contact with medical men in the discharge of my official duties has strongly impressed me with the value of, and the necessity for, this study.

UNITED STATES MEDICAL COLLEGE.

The Supreme court of the State of New York has recently decided that the United States Medical College is not a legally incorporated institution. In consideration of this, and of the further fact that the school has granted a diploma to a notorious "cancer doctor" of this State who could, under no circumstances, obtain a diploma from any Illinois college, I suggest that the United States Medical College of New York be placed in the list of those not recognized by this Board. Two of its diplomas were recognized conditionally some time since.

SANITARY CONVENTION.

It has been found to be impracticable to hold the convention, proposed at the last meeting, for the purpose of framing a uniform sanitary code. A digest of all State laws pertaining to the public health, to water supply, sewerage, drainage, tree-planting, cemeteries, and other matters having a sanitary bearing, has been prepared; but the pressure of current business—increased by the number of certificates to be issued at this season of the year—has left no time in which to make adequate preparation for such a convention; and I have, therefore, not felt warranted in issuing the call authorized by the Board in January.

PREVENTABLE-DISEASE CIRCULARS.

Twenty thousand copies each of the circulars on the Prevention and Control of Scarletina, Diphtheria and Typhoid Fever have been printed, in accordance with the order previously made. The demand for these circulars has been unexpectedly large, and a number of requests have been received for them in the German language. Unfortunately, there is no provision for State printing in that language—in fact, there is a constitutional prohibition against any printing under the State contracts except in the English language. As the Board has no means at its disposal out of which to defray the cost of a special edition in German, it is unable to comply with these requests.

SMALL-POX.

The State remains gratifyingly free from the disease. There have, at no time during the winter and up to date, been any more cases than may be reasonably expected among a population so much exposed as that of Illinois.

Since January 1, 1883, there have been cases at the following points:

January 19. One case of small-pox and four of varioloid at Moline. No deaths, and no spread of disease beyond those in the boarding-house where the first case occurred. Vaccination in community very general during past two years. Source of contagion, as yet unascertained. [The terms "varioloid" and "small-pox" are here used in their proper sense—as meaning small-pox modified by vaccination or not modified by vaccination.]

January 17. A fatal case at Plano, Kendall county. Child, unsuccessfully vaccinated a year ago. No spread of disease. Source of contagion, unknown.

January 28. Three cases of small-pox and a few of light varioloid, in the town of Plymouth and vicinity, Hancock county. Two deaths among the three unvaccinated. Attending physician writes that "all the cases of varioloid were so light that the efficacy of vaccination was apparent to all." Source of contagion, a resident returning from Nebraska; disease contracted en route.

February 1. One case of small-pox in Honey Point township, Maccoupin county. Disease contracted in Paducah, Ky. Three cases of varioloid resulted from this case. No deaths.

February 5. An unvaccinated infant in the town of Willow Branch, Piatt county. Recovered; no other cases. Source of contagion unknown.

February 12. The most serious outbreak which occurred during the period was that in Crouch and Shelton townships, Hamilton county, and the large proportion of cases of unmodified small-pox fully illustrates the results of the neglect of vaccination. The first cases were reported to be contracted from an immigrant. Up to date of last report there had been 21 cases in all, of which number only one had been vaccinated. One of the attending physicians states that if vaccination had been enforced last winter the outbreak would have been confined to the first cases.

February 16. Two tramps found in the streets of Belleville, St. Clair county, both suffering with varioloid. Not vaccinated since infancy. Recovered; no spread of disease. Source of contagion, St. Louis.

March 7. Dr. J. D. Young, of Pellonia, Massac county, reports a case of confluent small-pox contracted in Paducah, Ky. March 20, he writes: "A general compliance with the order of the State Board of Health has, no doubt, saved us from a fearful small-pox scourge. Our threatened invasion from Paducah, which is full of the disease in a very fatal form, has apparently aborted, though I continue to re-vaccinate all who have been exposed. The sister of the young man first attacked is our only other victim. Both died on the fourth day, and neither had ever been properly vaccinated."

March 10. Four cases of unmodified small-pox, at Grand Ridge, LaSalle county. One death; no spread; source of contagion believed to be the same as in the next group.

March 11. Fritz Bocker, a German immigrant, arrived in New York, February 7, via Steamer Elbe from Bremen. Was sick on landing. Reached Verona township, Grundy county, about the middle of February, then having several pustules on his face. From him cases have resulted in Verona, Grundy county, and in Allen and Brookfield townships in LaSalle county. The contagion is not yet eradicated, but no new cases have occurred for several days.

March 23. A case of varioloid occurred in the town of Greenfield, Greene county. No particulars yet received.

March 31. One case of varioloid in Makanda, Jackson county. The patient contracted the disease in New Orleans. An unvaccinated infant has since developed small-pox. Two other unprotected persons are known to have been exposed; but aside from these it is not believed that there will be any other cases.

The foregoing comprises all the points reported as having been visited by the disease during the past three months, except an occasional case in Chicago, and a few cases during March in Cairo, contracted on the river. It will be noted that in eight out of the twelve the source of contagion is already known to be by importation from beyond the State. Two of these were from Paducah, Ky., and the disease is so prevalent at many points along the Ohio river, outside of Illinois, that a strict quarantine is maintained against them by some of our Ohio river towns.

Some progress has been made in the preparation of the history of the Small-Pox Epidemic of 1881-82, and I submit such figures as have thus far been arrived at for the purpose of enabling the Board to judge of the importance of this work and the necessity of its prompt completion.

The history of the epidemic at fifteen places has been compiled with the following results:

Total number of cases at fifteen points.....	457
Total number of deaths.....	183
Total reported cost to individuals and the community....	\$25,761 09
Average of duration of each case.....	33 days
Aggregate loss of time to patients, exclusive of deaths, and of loss of time of attendants, members of family quarantined, etc.....	16,181 days

At two points out of the fifteen the disease extended over a considerable period—as one nearly four months and at the other nearly six months. In the remaining thirteen places the disease was confined to the first cases of families attacked, and the outbreak was suppressed within an average period of thirty days. This is believed to have been the uniform result wherever the rules of the Board were faithfully carried out.

The following figures are most instructive:

1.—Total number cases tabulated.....	457
“ “ deaths among same.....	183
Percentage of mortality.....	40.0
2.—Total No. cases found to have been vaccinated.....	210
recovered.....	9 died
Total number never vaccinated.....	64
recovered.....	17 died
Percentage of deaths among vaccinated.....	4.5
“ “ “ “ unvaccinated.....	65.2
3.—Total No. adults found to have been vaccinated.....	162
“ “ “ vaccinated in infancy or childhood only	
107 recovered.....	8 died.
Total number vaccinated since puberty 35 recovered.....	1 “
“ “ “ both before and after puberty 12	
recovered.....	0 “

These three tables strikingly illustrate not only the virulence of the epidemic—the mortality rising 40 in each hundred attacked; the protective influence in general of vaccination—only $4\frac{1}{2}$ in every hundred dying among those who had ever been vaccinated, while more than 65 out of every hundred unvaccinated succumbed; but also the fact that vaccination bears a marked relation, in its protective power, to the frequency of its repetition and to its nearness to the date of exposure. Thus it is seen that of 163 vaccinated adults attacked, 151 had been vaccinated only once, and only 12 of them twice or oftener. Of the 121 vaccinated once only, 115 were vaccinated in infancy or childhood, and of this number 8 died. Of the remaining 36, vaccinated at dates nearer the time of attack, only 1 died.

To put this in another way: The figures show that out of 1,000 vaccinated adults exposed to and contracting small-pox (or varioloid), 705 cases will be among those vaccinated only in infancy or childhood; and of this number about 70 will die. There will be about 220 cases among those vaccinated *since* childhood—that is nearer the date of exposure—but also vaccinated only once; of these 2 or 3 will die. The remaining 75 will consist of those unusually susceptible cases who, notwithstanding repeated vaccination, contract the disease whenever exposed.

The foregoing are some of the lessons which the immense amount of data accumulated will enable the Board to present to the profession and the public, for the prevention of future epidemics of the disease.

GLANDERS.

A communication from Dr. Paaren, the State Veterinarian, was received on Saturday last, April 7th, enclosing the following copy of a letter which had been addressed to him:

STERLING, ILL., April 2, 1883.

Dr. N. H. Paaren, Chicago, Ill.

Geo. W. Ramage, M. D., joins me in requesting you, in your capacity as State Veterinarian, to come out to our place to examine some glandered horses—at your earliest convenience. If you will drop me a card or telegram I will have arrangements made to take you out—the distance being thirteen miles from Sterling.

Yours truly, etc.,

M. R. TRUMBOWER.

NOTE.—Mr. Conway, the owner and keeper of said glandered horses, has for years been treating nasal gleet, and now pays the dreadful penalty of a loathsome death by glanders in his own system. Two weeks ago a son of his died of the same disease.

His farm has been a center of infection for years, and I was called to-day by some of his neighbors to examine his horses. Out of 13 I found five suffering from glanders in various stages of development. I had them placed by themselves, but not having authority to kill them myself, and the neighbors not desiring to do it under the circumstances of the family affliction, we considered it a proper case for the supervision of the State authority. All the horses have been running in the public road and have no proper care now, and the neighbors are afraid to go near the place.

Yours truly,

M. R. TRUMBOWER.

I at once telegraphed Dr. Trumbower for the name and address of the town clerk, to whom the following order was immediately forwarded:

OFFICE OF THE SECRETARY, SPRINGFIELD, ILL., April 8, 1883.

SIR: By virtue of authority vested in this Board, you are hereby directed to convene your town board of health for the purpose of taking immediate action concerning the existence of glanders in your township.

Section 127, of article xiv, chapter 139, of the Revised Statutes, constitutes the supervisor, assessor and town clerk of each township a board of health, and empowers such board to make and enforce any rules and regulations tending to check the spread of contagious diseases.

From such information as is in possession of this office, prompt measures should be resorted to in the present case. The diseased animals should be killed, the premises thoroughly disinfected, and if any persons are found to be afflicted they should be isolated under the supervision of the medical attendant. The disease is one of the most contagious and loathsome character, and the fact that two deaths have already occurred from it admonishes to instant action and the employment of all needful precautions.

You are requested to make a full report of the facts, and of the action of your board to this office as soon as practicable.

By order of the Board,

JOHN H. RAUCH, M. D.,

Secretary.

To S. S. COBB, Esq., Town Clerk, Coleta, Genesee Township, Whiteside County, Ill.

On the 9th inst., the following communication was received from Dr. Trumbower:

STERLING, Ill., April 7, 1883.

Dr. J. H. RAUCH, *Secretary State Board of Health*:

J. J. Reimers, veterinary surgeon, of Morrison, Ill., and myself were out to see and examine the glandered horses on the Conway farm yesterday; we condemned six, one of which was shot immediately. The balance were placed in quarantine awaiting the orders of the town board of health, or the action of the neighbors. I think the necessity and consequent loss in killing the horses will be compromised with the family—a subscription taken up to reimburse them for the loss. I left definite directions as to hygienic measures to be taken as soon as the horses are removed, but it is doubtful whether they will be carried out, except under compulsion.

Geo. Conway was taken sick on the 11th of March with evidences of catarrhal fever and a swelling over the frontal sinus, followed by induration of the right parotid gland, discharge from the nose, pustules and bullæ over the face, trunk and limbs. Died on the 22d, aged 17 years and a few days.

Wellington Conway, the father of the boy, was taken on the 23d of March with an attack simulating pleuro-pneumonia, followed by swelling of the glands, formation of pustules, ulcers, etc., died on the 23d of April. He was the attendant of the son throughout his sickness, and the presumption is that he took the disease from the son. * * * *

There is not the least doubt in my mind, nor in that of other competent men who know the history of the cases, that the disease was "equinia."

The disease in two of the horses is so well marked that no one at all familiar with the disease could possibly make a mistake. Two horses have it in the chronic form and are apparently cases of long standing, one of them probably extending over a period of four years. The remaining animals are just showing evidences of the affection sufficient to justify condemnation. * * * *

Yours truly,

M. R. TRUMBOWER.

I have requested the State Veterinarian, Dr. Paaren, to visit the infected locality, and to institute such measures in aid of the efforts of the town board, as may be necessary—using the legal authority of the State Board to that end, if required.

BURIAL PERMITS AND DEATH CERTIFICATES.

Since the last meeting, the town of Maroa, in Macon county, has adopted the burial-permit ordinance proposed by the Board.

It is noted that in some instances the maximum penalties imposed by the ordinance, as enacted, are in excess of the limit prescribed by the statutes. Attention is here called to this fact in order to prevent such a sentence being passed as would result in its being set aside, and thus defeat the purpose and intent of the enactment. Among the powers granted to city councils in cities, and to the presidents and boards of trustees in villages, in article v, of chapter 24 of the Revised Statutes, is one authorizing

them to pass all ordinances, rules, etc., etc., with such fines or penalties as they shall deem proper, "*provided*, no fine or penalty shall exceed \$200" * * *. The validity of an ordinance is, probably, not affected by the fact that its maximum penalty is more than \$200; but any sentence imposing a fine of that amount would, undoubtedly be illegal. It would be better to amend any ordinance, heretofore passed on this subject, where the maximum penalty exceeds \$200, so as to conform to the statute; and, in all cases, to secure the necessary publication—that is, at least once within one month after passage; ordinances imposing fines or penalties not taking effect until ten days after such publication.

Dr. James F. Potts, of Whitehall, President of the Greene County Medical Society, in a letter of the 24th of February, makes the following suggestions concerning the physician's certificate of the cause of death:

That the law be so changed as to require the undertaker, or the man who furnishes the coffin, to make reports of death, the physician last in attendance merely filling the necessary part of it relating to duration of sickness, cause of death, etc. At the last meeting of the Medical and Surgical Society of Western Illinois, I brought this matter up, and it met the approval of every member present.

The discussion which followed revealed the fact that, while reports of births were generally made, reports of deaths were surely falling more and more into desuetude, and that something must be done, or the Medical Act will fall even in the house of its friends.

The obstetrician, after the labor is ended, is on the ground, and has an abundance of time to make the necessary inquiries, and moreover, he takes pride in doing so and in making reports.

It is far different with the physician as regards report of death. He is hardly ever present at the time of death, and, either in a wide country practice or in a crowded city, he may not see for months, or may never see, the friends or parents of deceased. These are lost. In a considerable proportion of cases, especially chronic ones, he does not know that he was last in attendance, and these are lost. Another considerable proportion of survivors are so dissatisfied with the physician, on account of the unfortunate termination, that it is a very delicate and unpleasant topic for both parties, and many of these are lost. Sudden deaths often are not reported—from violence, accident, heart disease, apoplexy, etc., and these are of grave importance in vital statistics. Many physicians, too, are bull-headed, and will not report, while others are careless, and report only in part.

Vital statistics, to be of any value, must be full, and it would seem impossible to get anything like full reports under our present law. With the change proposed, we may reasonably expect as full reports of deaths as we now have of births; for the undertaker, like the obstetrician, would have abundant time and opportunity to make inquiry, and would take the same pride in making the report.

This subject will doubtless be presented at the coming annual meeting of the State Medical Society, and I see no reason why, if the change is desirable, it may not be made during the present session of the Legislature.

To this letter I replied in substance, endorsing the suggestion of a good

one and eminently practical, stating that I had "frequently considered whether such a division of the certificate could not be made under the law as it now stands, but without arriving at a satisfactory conclusion," and adding that "it is to be hoped the present General Assembly may do something toward perfecting legislation upon vital statistics." While awaiting such legislation, the custom which obtains where burial permits are required—and by which the undertaker practically does what Dr. Potts suggests—might be more generally adopted.

SANITARY COUNCIL.

On the third and fourth of April, the fifth annual meeting of the Sanitary Council of the Mississippi Valley was held at Jackson, Miss. In some respects, the results of this meeting promise to be of greater importance to the health interests of the Valley than those of any other since its organization. As stated in the circular letter of the Executive Committee, the suspension of some of the most important functions of the National Board of Health—especially its Sanitary Inspection Services; the attitude of the Louisiana State Board of Health toward the New Orleans Auxiliary Sanitary Association, and toward other State Boards of Health in the Valley; the continuance of Asiatic cholera in threatening proximity to lines of travel, and the prolonged existence of a fatal form of *cholera nostra* in some parts of Mexico, together with other considerations touching the public health, have combined to renew the interest which originally attached to the deliberations and actions of this body.

Fifty delegates, from twelve States, were in attendance at Jackson; and among these, in addition to the various sanitary organizations, there were present representatives of the leading business and transportation interests. Illinois was represented by Dr. W. A. Haskell and the Secretary of the State Board; Chicago, by Dr. J. M. Hall, of the Health Department, and Dr. J. G. Kiernan; Joliet, by Dr. R. J. Curtiss; Springfield, by Drs. B. M. Griffith and J. L. Million; Braidwood, by Dr. Le Caron; Danville, by Dr. P. H. Barton; Belleville, by Dr. Schlernitzauer; Martinsville, by Dr. W. H. Doak; and Carbondale, by Dr. Heber Robarts.

Resolutions were adopted by the Council reciting that, as the National Board of Health possesses the fullest confidence of the Valley, it is recommended that the President of the United States place the epidemic fund of \$100,000 in the hands of that body for use in case of necessity; that the river and rail inspections, heretofore made by the National Board, be continued, if necessary, under the supervision of the Council, in the event that the former organization is unable to do so, and that the various States interested contribute to defray the expenses of such inspections.

The full report of the meeting is at hand for the information of the members, but its reading at the present time is unnecessary, attention having been called to the points upon which it seems desirable the Board should take action at this time.

All of which is respectfully submitted.

JOHN H. RAUCH,
Secretary.

On motion of Dr. Clark, the Secretary's report was received and referred to a committee appointed by the Chair (consisting of Drs. Clark, Ludlam and McLean), to formulate expressions of the views of the Board on the various recommendations and suggestions.

The executive session was then, at the instance of the Secretary, resumed and continued, with a recess for dinner, until 4 o'clock P. M. At that hour the regular order of business was called, and Dr. Clark, from the Committee on the Secretary's Report, submitted the following:

Mr. President:

Your committee, to whom was referred the Quarterly Report of the Secretary, begs leave to state that it has given due consideration to the various matters therein discussed, and offers the following resolutions for the action of the Board:

Resolved, That the Illinois State Board of Health cordially approves the following actions and recommendations of its Secretary, as set forth in his quarterly report:

First. The refusal to issue, in the interests of the public and the profession, the hundred-dollars-a-month license to two itinerants.

Second. The recommendation that medical colleges be again furnished with copies of the Schedule of Minimum Requirements, and requested to state formally their action thereon—such request to embody so much of the Secretary's argument for the necessity of this action as may be necessary for the further information of the colleges.

Third. The recommendation of the modification of the affidavit, required to be made by applicants for certificates, so as to require them to state whether the requirements of their individual colleges and of this Board, in the matter of medical education, have been fully complied with.

Fourth. The suggestion of the desirability of a prompt completion of the report of the Board's investigations into the causes, and the methods of preventing a repetition of the late small-pox epidemic.

Your committee would add that it knows of no more valuable work to the community than that foreshadowed in the facts and figures concerning this epidemic which are briefly given in the Secretary's report; and that it considers the prompt dissemination of such knowledge one of the most important with which the Board is charged, both by the constituting act, and by the terms of the contingent appropriation for the prevention of epidemics of contagious and infectious diseases.

With reference to the suggestion that the granting of diplomas by colleges to incompetent or unqualified persons, or in violation of their published requirements, should subject those responsible therefor to the odium and disqualifications attaching to any other unprofessionable and dishonorable action, your committee concurs in the opinion expressed, that the subject is a fitting one for the consideration of the Board.

In the matter of the United States Medical College of New York City, the adoption of the following resolution is recommended:

Resolved, That, in view of the decision of the Supreme court of the State of New York—to the effect that the charter of the United States Medical College of the City of New York is null and void—the diplomas of said college cannot be legally recognized by this Board.

Respectfully submitted.

Committee, {
A. L. CLARK,
R. LUDLAM,
JOHN MCLEAN.

The report of the committee was received and adopted. The Secretary called attention to the passage concerning the certificate of death, and suggested that the failure of physicians to make the returns required by law—returns of such vital importance to the public welfare—partakes of the character of unprofessional and dishonorable conduct.

On motion of Dr. McLean, the Board endorsed the recent action of the Sanitary Council of the Mississippi Valley, and empowered the Secretary to take such steps, on behalf of the Board, as may be necessary to make effective that action so far as the State of Illinois is concerned.

Dr. Rauch briefly alluded to the necessity of harmonious action with the other Valley States—not so much with reference to the exclusion of yellow fever from the State, of which he had little fear, but on account of the demoralization of trade and commerce which ensues during the existence of that disease in the absence of co-operation between the various health authorities in the Valley. At 5 p. m. the Board adjourned until 7 p. m.

At the evening session, on motion of Dr. Ludlam, the Secretary was requested to announce that, in future, examinations of non-graduate candidates for certificates from the Board would be preceded by an examination into their general educational requirements—such examination, in default of a diploma or certificate of graduation from a literary and scientific college or high school, to embrace the usual branches of a good English education, including mathematics, English composition, and elementary physics or natural philosophy.

On motion of Dr. Clark, the Secretary was authorized, during the interval between the present and the next meeting of the Board—regular or special—to take such action, in the event of a

serious emergency arising threatening the public health, as, in his judgment, may be necessary.

The remainder of the evening session was occupied in the examination and rating of the answers of candidates in the branches so far as completed; and at 10 p. m. the Board adjourned until Saturday morning at 10 o'clock.

SATURDAY, APRIL 14, 1883.—The Board was called to order by the President at 10 o'clock a. m., with the members in attendance as at previous session.

Dr. Clark asked the opinion of the members upon the feasibility of an effort to secure one common Examining Board on Preliminary Education for the six medical colleges in Chicago. The suggestion was unanimously approved, and the Secretary requested to make mention of the matter in his published report for the purpose of bringing it before those interested.

The auditing committee reported that it had examined and audited the following accounts, amounting to \$2,024.81, had found the same to be correct, and recommended that they be paid:

Salary of Secretary.....	\$625 00
Clerical services.....	850 00
Traveling expenses of Secretary and Members....	201 56
Postage.....	144 00
Expressage ...	55 70
Telegrams.....	20 30
Books, journals, etc.....	90 10
Printing and stationery.....	15 00
Vaccine virus....	13 50
Incidentals	9 65

\$2,024 81

The Secretary reported that 18 candidates had presented themselves for examination, of which number five withdrew before completing the answers to any of the sets of questions; and that upon tabulating the ratings, of the remaining 13 none were found to have attained the required minimum of 80 per cent. of

correct answers. Following are the schedules of questions submitted :

EXAMINATION IN ANATOMY—BY W. A. HASKELL, M. D.

- 1st. Give the minute anatomy of bone.
- 2d. Describe the astragalus, and give its articulations.
- 3d. With what bones does the ulna articulate?
- 4th. Describe the ligaments of the elbow joint.
- 5th. Describe the biceps of the arm, giving its relation to the nerves by which it is supplied.
- 6th. Name the muscles involved in fracture of the radius near its center, and describe their action.
- 7th. Describe the vessels of the liver.
- 8th. Name the arteries forming the circle of Willis.
- 9th. Describe the superficial and deep palmar arches.
- 10th. Describe the Eustachian tube.
- 11th. Describe the kidneys.
- 12th. Give the anatomy of the inferior carotid triangle.
- 13th. Give the distribution of the fifth cranial nerve.
- 14th. Give the relations of the brachial artery, vein and nerve.
- 15th. Name the structures wounded by a ball which entered the right side about four inches from the median line of the spine, and on a level with the center of the first lumbar vertebra, and traversed the body, making its exit on a level with the eighth rib and ten inches to the left of the median line of the spine.

EXAMINATION IN PHYSIOLOGY—BY JOHN MC LEAN, M. D.

- 1st. What is physiology?
- 2d. Is digestion a simple or complex function?
- 3d. What are the natural solvents for the food?
- 4th. Is the bile a secretion or an excretion?
- 5th. Name the chief constituents of the blood.
- 6th. What is the source of its white corpuscles?
- 7th. What is the relative frequency of the heart-beat and the respiratory act?
- 8th. Does urea exist in the blood in health, or is it manufactured in the kidney?
- 9th. If the renal function is temporarily suspended what surfaces may eliminate the urinary salts?
- 10th. What is the function of the cerebellum?
- 11th. Give the physiology of menstruation?
- 12th. How is the ovum nourished prior to the formation of the placenta?
- 13th. Describe the function of the lymphatics.
- 14th. What are the sources of heat in the animal body?
- 15th. What is the average normal human temperature, and what is the range in health?

EXAMINATION IN CHEMISTRY—BY A. L. CLARK, M. D.

- 1st. What is an elementary body?
- 2d. Name ten elementary bodies, and give their chemical symbols.
- 3d. Define specific gravity.
- 4th. What is the use of the hydrometer?
- 5th. At what temperature Fahrenheit is water most dense?
- 6th. What are the properties of chlorine?
- 7th. What elements chiefly constitute common air, and in what manner are they associated, chemically or mechanically?
- 8th. What medical substance is represented by the chemical symbols KI?
- 9th. What metal forms the base of common clay?
- 10th. What element composes the principal bulk of plumbago, and name some other substances of which it is chief constituents?
- 11th. What is produced by the addition in solution of six parts acid tartaric to eight parts sodic bicarbonate?
- 12th. In what manner does the leavening or lightening of dough by yeast differ from the same accomplished by baking powders, and which process is most destructive to the virtues of the flour?
- 13th. What effect will usually be produced by the administration of a tablespoonful of Na Cl?
- 14th. What are the principal chemical elements found in milk?
- 15th. What is an acid; a salt; a base; an alkaloid; an alkali; an alcohol; a compound ether?

EXAMINATION IN GENERAL PATHOLOGY—BY R. LUDLAM, M. D.

- 1st. What is the difference between a fever and an inflammation?
- 2d. Why do we distinguish predisposing from exciting causes of disease?
- 3d. Describe and define a cachexia.
- 4th. What is meant by the "latent period" of a disease?
- 5th. What is chloro-anæmia?
- 6th. Name the most prominent of our epidemic diseases.
- 7th. Give the chief and common characteristics of malignant disease.
- 8th. Explain the clinical significance of a hyper-thermal temperature.
- 9th. What is the import of glycosuria in malarial fevers?
- 10th. With what particular diathesis are cardiac lesions most frequently associated?

EXAMINATION IN THE PRACTICE OF MEDICINE—BY JOHN MC LEAN, M. D.

- 1st. Give the pathology, symptoms and treatment of empyema.
- 2d. What are the diagnostic symptoms of intestinal invagination?
- 3d. In what various ways may an attack of pneumonia terminate?
- 4th. Describe typical cases of measles, chicken-pox, small-pox, so as to indicate their differential diagnosis.
- 5th. Give the pathology, symptoms and treatment of typhoid fever.

- 6th. What precautions are necessary during the treatment of acute rheumatism with reference to complications or sequelæ?
- 7th. What are the symptoms and usual results of cerebral hæmorrhage?
- 8th. Give the symptoms and treatment of croup.
- 9th. How would the scrofulous diathesis modify your treatment in an acute inflammatory attack?
- 10th. What is the essential pathological condition in *tabes mesenterica*? Indicate the general treatment.
- 11th. What are the symptoms of acute gastritis?
- 12th. What are the predisposing causes of Bright's disease?
- 13th. Give the symptoms and treatment of sunstroke.
- 14th. Give the symptoms and treatment of bronchitis.
- 15th. What is understood by the self-limitation of diseases?

EXAMINATION IN SURGERY—BY W. A. HASKELL, M. D.

- 1st. Describe the mode of pus formation.
- 2d. What are the uses of pus?
- 3d. What is the distinction between septicæmia and pyæmia?
- 4th. What are the complications of abscesses?
- 5th. Give the symptoms of gangrene.
- 6th. Define a burn of the second degree, and indicate its treatment.
- 7th. Give the treatment of lacerated wounds.
- 8th. Give the anatomy of epithelioma.
- 9th. Describe Teale's method of amputating, and name the advantages and disadvantages it presents.
- 10th. Give the relative advantages of the circular and the flap modes of amputating.
- 11th. What are the principal causes of death after amputation?
- 12th. Describe venesection upon the median basilic vein.
- 13th. Give the differential diagnosis of phimosis caused by gonorrhœa from that caused by subpreputial chancroid.
- 14th. Describe the ligation of the radial artery in the forearm.
- 15th. Give the diagnosis of strangulated hernia.
- 16th. Give the differential diagnosis of fracture of the neck of the femur and of dislocation of that bone.

EXAMINATION IN OBSTETRICS—BY A. L. CLARK, M. D.

- 1st. What should be done in case of hæmorrhage or flowing after the birth of the child?
- 2d. What are the functions of the placenta?
- 3d. What dangers attend the mother in twin labors?
- 4th. What dangers to the mother and what to the child in breech presentations?
- 5th. Under what circumstances is it proper to administer ergot during parturition?
- 6th. What treatment is necessary in presentation of the shoulders?
- 7th. Give the signs of pregnancy in the order in which they occur, and state what is the first *positive* sign.

- 8th. What should be done in case of prolapse of the cord?
- 9th. What are the principal fontanelles and what is their shape?
- 10th. How can you determine a hand from a foot presenting at or near the superior strait?
- 11th. Give pathology and prognosis in cyanosis.
- 12th. To what height in the abdomen does the uterus rise during the fifth month of pregnancy?
- 13th. Why does it usually descend during the last two weeks of pregnancy?
- 14th. Name all the female organs of generation.
- 15th. In what manner is septicæmia made likely to follow parturition, and in what way should it be guarded against?

EXAMINATION IN GYNÆCOLOGY—BY R. LUDLAM, M. D.

- 1st. What is the depth of the normal unimpregnated uterus?
- 2d. What is the most frequent lesion in uterine leucorrhœa?
- 3d. What form of nervous derangement is most likely to depend upon ovarian disease?
- 4th. What three diseases are apt to cause anchorage, or flexity of the womb?
- 5th. What is the source of danger from pelvic hœmatocele?
- 6th. What conditions of the rectum predispose to pelvic disorders in woman?
- 7th. What are the causes and symptoms of laceration of the uterine cervix?
- 8th. What is the mode of operating for stone in the bladder of woman?
- 9th. What are the sources of poisoning in puerperal septicæmia?
- 10th. What do we mean by sub-involution of the uterus?

EXAMINATION IN MATERIA MEDICA AND THERAPEUTICS—BY JOHN H. RAUCH, M. D.

- 1st. Define (a) *Materia Medica*; (b) *Therapeutics*.
- 2d. Describe, briefly, the various methods in which medicines may be introduced into the system.
- 3d. Define topical remedies, and name some of the more important ones.
- 4th. Name some of the evacuants, and state how they act.
- 5th. What are the principal medicinal agents indigenous to Illinois?
- 6th. Write prescriptions embracing the following articles, and state the indications for each: R No. 1:—Sulphate of quinine and sulphate of iron. R No. 2:—Fluid extract of ergot and tincture of opium. R No. 3:—Fowler's solution. R No. 4:—Oil of turpentine. R No. 5:—Chloride of ammonium.
- 7th. Describe the therapeutic uses of the iodides of potassium and ammonium.
- 8th. Give the doses of fluid extract of digitalis; of podophyllin; of salicylic acid; of iodoform; of proto-iodide of mercury; of

fluid extract of gelsemium; of arsenious acid; of sulphate of atropine; of alum; of bromide of potassium.

- 9th. What are the chief alkaloids of opium; of belladonna; of nuxvomica; of aconite; of Calabar bean?
- 10th. Write three different prescriptions—for diarrhœa; for pneumonia; for malarial fever—stating the different stage of character of the disease, or other indications, intended to be met by each prescription.
- 11th. What is hydrate of chloral; its uses; dangers? To what is it antidotal?
- 12th. Name, and give the doses of the different officinal preparations of opium.
- 13th. What are the principal anti-pyretics, and their modes of use?
- 14th. How do they act, and what conditions indicate their employment?
- 15th. What are anthelmintics? Mention the doses of three or more different ones.

EXAMINATION IN HYGIENE—BY JOHN H. RAUCH, M. D.

- 1st. What is a zymotic disease?
- 2d. Name the principal preventable diseases, in the order of their greatest prevalence in Illinois.
- 3d. What is the most common medium of diffusion of the poison of enteric, or typhoid fever; and in what way may the spread of this poison be effectually prevented?
- 4th. What are the chief sources of water pollution, and what diseases are caused by a polluted water supply?
- 5th. In a case of scarlet fever, when would it be prudent to permit the convalescent to mingle with others, and what precautions should be first enforced?
- 6th. During the prevalence of an epidemic of a contagious or infectious disease, what duty does the physician owe to the public and to his *clientele*?
- 7th. Within what distance of a well is a privy-vault, cesspool, or other subterranean storage of decomposing animal and vegetable matter, dangerous, and why?
- 8th. What are disinfectants; how are they used, and for what purposes?
- 9th. Indicate, briefly, the evils which should be guarded against in behalf of the health of school-children?
- 10th. What are the chief causes of the excessive mortality of infants and children under five years of age, and how may they be largely remedied?
- 11th. To what is trichiniasis due, and how may it be prevented?
- 12th. What diseases are caused by a wet, undrained soil?
- 13th. What effect would general sub-soil drainage produce upon temperature, atmospheric humidity and wind movement?
- 14th. What is the agency of vegetation upon health?
- 15th. Describe, briefly, the sanitary conditions which should obtain in and about a dwelling-house.

EXAMINATION IN MEDICAL JURISPRUDENCE—BY JOHN H. RAUCH, M. D.
[FORENSIC MEDICINE.]

- 1st. What is understood by medical jurisprudence or forensic medicine?
- 2d. A body is found upon a railroad track, mangled by the wheels of a train. How could it be determined whether the injuries were produced before or after death?
- 3d. In a case of suspected infanticide, what proof would be afforded by an examination of the lungs of the infant?
- 4th. What is the difference between abortion and miscarriage?
- 5th. Where a person knowingly communicates a contagious disease to another, and death results therefrom, can the law take cognizance of the facts; and if so, how?

As the published condition of these examinations requires 80 per cent. of correct answers in each of the first ten branches, and this had not been reached in any case, none of the candidates were adjudged entitled to a certificate, and the fees for examination were ordered to be returned.

On motion of the Secretary, the Board finally adjourned at 1 o'clock p. m.

ARTICLE V.

CHICAGO MEDICAL SOCIETY.

The meeting of April 16, 1883, with Dr. D. W. Graham in the chair, was the largest attended meeting since that of four years ago, when Dr. Cutter, of Boston, delivered his lecture on The Diagnosis of Syphilis by Examining the Blood with the Microscope. About 100 members and guests were present upon each occasion.

Drs. F. D. Porter and W. H. Wilson were elected to membership, and Dr. Robert Randolph, graduate of Bellevue, April 1879, proposed for membership by Drs. T. W. Miller and D. A. K. Steele.

Dr. Edmund Andrews first gave a brief and practical lecture on Litholopaxy, and exhibited a large calculus that he had crushed at one operation, in a patient's bladder, that P. M. by Bigelow's method, which was unattended by pain to the patient.

Dr. E. F. Ingals had prepared a very learned paper on the Treatment of Emphysema, which was read by Dr. W. L. Dorland.

Dr. Andrews moved, duly seconded, that discussion on Dr. Ingals' paper be postponed until the next meeting, as they had another scientific paper of considerable length to listen to this evening. The motion prevailed.

Dr. Wm. T. Belfield then proceeded to give a running commentary on Micro-Organisms in Disease, by exhibiting with a lantern and screen some thirty micro-photographs that were used to illustrate the recent Cartwright Lectures. The doctor consumed about an hour and a quarter in talking on this most interesting theme, during which the following named organisms were brought into view and dilated on :

1. Mole fungi, discovered in 1871, called *ætomices bovis*, although but 19 cases have been reported; found in man up to last August, in Europe.
2. Chromidia, or the flower part, which later develops to a seed.
3. Micrococci, as appears in septic poisoning as the rod bacillus; as found in hay; and the anthracis bacillus as found in animal blood.
4. Anthrax bacilli from kidney (rod-shaped).
5. Anthrax bacilli from liver.
6. Thread-growing bacilli in the blood.
7. Thread, still more magnified, with spores inside of threads.
8. A mass of foreign bacteria with threads and rods.
9. Bacilli from erysipelatous patient (supposedly so).
10. Section of heart-muscle from pyæmia (magnified 100 diameters); this represents a vessel plugged with micrococci.
11. Abscess from kidney from a case of ulcerous endocarditis.
12. Bacteria found in a malignant pustule on the hand.
13. Other forms of micrococci into fours, etc.
14. Section of kidney from a case of small-pox.
15. Piece of same kidney much more magnified.
16. Bacillus of typhoid-fever-spleen, liver and kidney.
17. Same case of typhoid; more bacilli, more fully magnified.
18. Bacilli from pneumonia.
19. Bacilli from kidney in case of diphtheria of bladder.

20. Bacilli again taken from two forms of pyæmia.
21. Bacilli similar to that of anthrax, found in septicæmia.
- 22 and 23. Others similar, found in malignant œdema; found in spleen.
24. Bacilli, found in every cadaver 24 to 36 hours after death in warm weather.
25. Spirillum of recurrent fever or relapsing fever.
26. Tubercle bacilli of retro-peritoneal gland.
27. Section of the skin in a case of leprosy (bacilli rarely occur in this disease).
28. *Filariæ sanguinis hominis* (a worm).
29. The worm enlarged, found from 5 to 6 P. M. in a patient who had chyluria, to 5 to 6 A. M.; they are very active, 80 to 100 are found in motion in a drop of blood.
30. The trichina—also *filariæ*.
31. *Filaria* again, similar in structure to the trichina.

Dr. D. R. Brower moved that Dr. Belfield receive a vote of thanks for his interesting lecture that evening, which was an unanimous expression, followed by applause.

Regarding the delegates to the Illinois State Medical Society, upon motion of Dr. E. Ingals, the secretary was authorized to fill out alternates' certificates for vacancies occurring.

As the society is entitled to 42 delegates to the State Society, a motion of Dr. E. H. Thurston, that to facilitate matters, those desirous of attending should send their names to the secretary, was also carried, but few responded.

The following were voted delegates to that body:

Drs. P. M. Woodworth, D. R. Brower, J. A. Robison, Emma F. Gaston, Wm. P. Verity, E. H. Thurston; the list not yet being completed.

The following delegates to the American Medical Association were then nominated and elected:

Drs. Truman W. Miller, Arthur R. Reynolds, Simon Strausser, W. L. Dorland, Ephraim Ingals, Wm. T. Belfield, Philip Adolphus, A. B. Hosmer, Frank S. Johnson, T. W. Brophy, H. P. Newman, Christian Fenger, L. H. Montgomery, Chas. T. Parkes, F. H. Martin, Edwin Powell, D. W. Graham, E. F. Ingals, R. E. Starkweather, W. H. Curtis, G. C. Paoli.

Dr. L. H. Montgomery moved that a committee be appointed to confer with the passenger departments of the different railroads leading to Peoria and Cleveland relative to rates for delegates, and it was so ordered. Upon motion of Dr. N. S. Davis, the President and Secretary were appointed the committee.

Dr. E. Ingals, chairman of the committee appointed at the annual meeting to consider the suggestions embodied in the report of the secretary, presented the following:

TO THE CHICAGO MEDICAL SOCIETY:

Your committee to whom was referred the recommendations of your secretary, contained in his annual report, beg leave to report as follows:

1st. The proposed amendment to the constitution, which was to add a second vice-president to the officers of the society, has already been adopted, and requires no comment.

2nd. It is desirable that our membership should embrace every physician of good standing in the city, and as all names are submitted to the scrutiny of the committee on membership, it cannot matter by whom they are recommended.

3rd. We would recommend that the society provide for the publication of a brief history of its existence, with its constitution, and present list of members, with the date and place of their graduation.

4th. We deem it unwise for the society to add an insurance company as an auxiliary to its scientific purposes.

5th. We would recommend that a committee be appointed to obtain a charter for the society under the statutes of the State. This would perhaps add something to its reputation and perpetuity, and enable it to hold property in its corporate capacity.

6th. We would advise that the surplus money in the treasury be invested at interest, to serve, with future accumulations, as a fund by which we may ultimately obtain and own a permanent home for the society, and perhaps for some other kindred institutions.

All of which is respectfully submitted.

E. INGALS,	} Committee.
D. W. GRAHAM,	
R. G. BOGUE,	

Discussion being in order, Dr. E. Andrews argued at some length upon that portion of the report regarding a home for the society, etc., and concluded by moving that it be accepted and placed on file.

Dr. N. S. Davis thought it best to defer any further discussion until a future meeting, for he thought, as a rule, incorporated medical societies were liable to fall through in a few years. He moved as an amendment to the above motion, that the report be laid on the table for the present. The amendment was accepted and carried.

Dr. R. E. Starkweather suggested that in the notices on the next postal card announcements it should be stated that the quorum of delegates to the State Society had not yet been filled. It was so ordered.

The society adjourned at a late hour.

L. H. M.

The following is a partial list of members present :

Graham, Bettman, B., Elliott, Bates, Curtis W. H., Gaston, Mercer, Gradle, Engert, Potter, MacArthur, Martin, Steele, Starkweather, Coly, Davis N. S., Cook A. H., Colburn, Reynolds A. R., Adolphus, Dorland, Ingals E., Lescher, Brophy, Chew, Bidwell, Powell, Best, Randall, Weller, Montgomery L. H., Andrews E., Tucker D. M., Brower, Paoli, Johnson F. S., Burt, Tilley, Purdy, Robison, Verity, Thurston, Strausser, Stowel, Hobbs, Merriam, Fenger, Ingals E. F., Tagert, Hosmer, Hayes, Miller T. W., Woodworth.

The following visitors were in attendance :

Herbert C. Jones, M.D., Cerro Gordo, Ill.; J. W. Wier, M.D., Oswego, Kan.; J. S. Turner, M.D., Atalissa, Iowa; J. G. Langguth, Chicago; I. J. Smith; Harlan, Iowa; J. F. Sharp, J. T. T. Stoddard, A. Leigh, Highland, Kansas; W. F. Wakeman, City; Wm. Hoskins, City; A. T. Steele, M.D., Ashmon, Ill.

PROF. W. E. QUINE has resigned the chair of *Materia Medica* in Chicago Medical College, and accepted the chair of *Practice of Medicine* in the College of Physicians and Surgeons.

ARTICLE VI.

MICHIGAN STATE BOARD OF HEALTH. (Reported for the CHICAGO MEDICAL JOURNAL AND EXAMINER.)

The Michigan State Board of Health met at its office in Lansing, Mich., on April 11, 1883, the following members being present: Hon. John Avery, M.D., of Greenville; Arthur Hazlewood, M.D., of Grand Rapids; Hon. C. V. Tyler, M.D., of Bay City; Henry B. Baker, M.D., Secretary. Dr. Avery was made President *pro tem*. The minutes of the last two meetings of the Board were read and approved. The secretary read a quarterly report of work in the office of the Board, showing the amount of proof read; meteorological and other reports received; compilation of material effected; bulletins, documents, circulars, blanks and reports distributed; correspondence performed, etc.; being a brief summary of the work performed in the office of the Board. The secretary also presented a *résumé* of the work performed by other State Boards of Health, and a review of sanitary legislation in other States. He stated that in Michigan the House of Representatives had passed a bill, which was likely to become a law, practically repealing that section of the act establishing the State Board of Health, which provides that the secretary of the State Board of Health shall be the superintendent of vital statistics. If the bill becomes a law, the vital statistics will hereafter be entirely under the control of the Secretary of State. The secretary referred to the alarming presence of small-pox in Nashville and New Orleans, and suggested that Michigan was in danger, because of the approaching time when Southern people flock to the numerous summer resorts in Northern Michigan. The secretary was instructed to correspond with the National and other boards of health, and to do all that can be done to prevent the introduction of small-pox, by quarantine and inter-State inspection. The secretary was authorized to send to health officers in the vicinity of health and summer resorts information of the existence of small-pox in the places whence some of their visitors come; also to send the same notice to health officers of cities especially exposed to introduction of the disease.

The secretary presented an account of sickness caused by eating salted pork. The sickness was attended by burning in the stomach and abdominal tenderness. Some of the meat was fed to four cats. The symptoms in the cats were expansion of the pupils, vomiting, great thirst, and tenderness of the muscles. Diarrhoea was not present. Three of the cats died, the fourth one being barely able to walk after one month. They were attacked twelve hours after eating the meat. A partial microscopical examination of some of the meat by Prof. T. J. Burrill, of Champaign, Ill., disclosed nothing within the meat to have caused the illness, but on the surface of the "lean" portions there was found a micrococcus enormously numerous, as well as some fungous developments of a mould-like kind, sparsely present. The micrococcus was of a new variety, entirely distinct from that of "hog cholera," which latter was not detected in the specimen. It is not known whether the organism was on the pork when it was used for food, and it has not yet been determined whether it is now alive. Culture experiments will be instituted to determine that point. It is quite devoid of motion, and has a less dense or firm appearance than most of its congeners. It takes the ordinary aniline violet stain. Usually two were connected in a figure 8 form; rarely more. The secretary presented statements from Mr. Love, clerk of the board of health of Grand Rapids, showing successful prosecution for selling diseased meat in several cases.

In the afternoon session, Prof. R. C. Kedzie, formerly a member of the State Board of Health, made a report of his attendance at the meeting of the Sanitary Council of the Mississippi Valley, at Jackson, Miss., April 3, 1883, at which he represented the Board. He reported that the meeting was unanimous in urging the continuance of the National Board of Health, and the system of river and railroad inspections, to insure the prevention of the spread of epidemic diseases, without the obstruction of travel and commercial relations between the States, and of such surveillance of the port of New Orleans as will give to the several State and important municipal health authorities represented in the Council, prompt and reliable information of the occurrence and progress of an epidemic disease in that city. Plans for such work were

discussed and adopted, and it was understood that in case of the failure of the national government to carry it out after June 2, beyond which time the National Board of Health will be unable to sustain it, unless President Arthur places the \$100,000 appropriation at its disposal, it will become important and necessary for the several States endangered to supply, in some way, the money to carry on the work. Delegates from Mississippi, Arkansas, and other States, pledged certain amounts, in case it proves to be necessary. (Michigan has never made an appropriation available for use in preventing the *introduction* of contagious diseases.) Dr. Kedzie received a vote of thanks for the able manner in which he represented the Board at the meeting.

This being the annual meeting of the Board, the election of a President for the ensuing two years resulted in the election of Hon. John Avery, M.D., of Greenville.

The secretary presented an account of the death of a railroad employè by being caught in a "frog," together with a copy of a bill now before the legislature, providing for a wedge of hard wood, or other substance of equal utility, in all "frogs" of an angle of less than 45 degrees. He described the method devised by a prominent railroad man, of tamping hard coal and cinders in the frog. This method is not dangerous to the traveling public, and the wedge of hard wood, by its liability to be misplaced, might throw a train from the track and cause many deaths.

The secretary was authorized to prepare a blank form for the use of health authorities in Michigan in reporting the occurrence of a disease dangerous to the public health, to the State Board of Health.

Invitations to hold sanitary conventions at Muskegon and Ionia were accepted, the dates to be hereafter decided upon.

The newly elected President announced the following

STANDING COMMITTEES.

1. Epidemic, Endemic and Contagious Diseases.—H. F. Lyster, M.D.
2. Sewerage and Drainage.—H. F. Lyster, M.D.
3. Food, Drinks, and Water-Supply.—V. C. Vaughan, M.D.

4. Buildings, including Ventilation, Heating, etc. — Jno. Avery, M.D.

5. Climate, Geology, Topography, etc.—Henry B. Baker, M.D.

6. Disposal of Excreta.—John H. Kellogg, M.D.

7. Poisons, Explosives, etc.—V. C. Vaughan, M.D.

8. Occupations, Recreations and Habits.—J. H. Kellogg, M.D.

9. Relations of Schools to Health —Jno. Avery, M.D.

10. Sanitary Survey.—C. V. Tyler, M.D.

11. The Death-Rate as Influenced by Age. — Henry B. Baker, M.D.

12. Legislation.—C. V. Tyler, M.D.

13. Finances of the Board.—Arthur Hazlewood, M.D.

14. Mental Hygiene.—Arthur Hazlewood, M.D.

15. Diseases of Animals.—Henry B. Baker, M.D.

16. Relations of Preventable Sickness to Taxation.—John H. Kellogg, M.D.

These nominations were confirmed by the Board.

Dr. Baker, as committee on diseases of animals, reported an effort being made in the legislature to secure an appropriation for the State Board of Cattle Commissioners. Dr. Tyler reported the presence of a bill in the legislature prohibiting putting sawdust into streams.

Dr. Hazlewood reported that he had frequently seen old oil barrels being collected in Grand Rapids, from which the brand had not been erased, and often, on new invoices of oil, the inspector's brand was so indistinct that the date of inspection could not be deciphered.

The secretary was requested to prepare a memorial to the President of the United States, petitioning that he place the \$100,000 appropriation in the hands of the National Board of Health.

The Board performed much routine business, and adjourned to meet at Reed City, Michigan, April 26 and 27, 1883, at which time there will be a sanitary convention at that place under its auspices.

ARTICLE VII.

CHICAGO PATHOLOGICAL SOCIETY. Stated Meeting, Dec. 11th, 1882. Dr. H. M. Lyman, President, in the Chair.

Dr. G. Frank Lydston, late resident surgeon to Charity and State emigration hospitals, New York, and now lecturer on genito-urinary disease in the College of Physicians and Surgeons of Chicago, read a paper entitled, "A Contribution to the Hereditary and Pathological Aspect of Vice," which will be found in the February number of the JOURNAL. The society had turned out in full, and several of the members took place in the following discussion.

DISCUSSION.

Prof. E. L. Holmes said that this was certainly a great subject. He had been brought in contact with a large number of criminals, and it was evident that just as we come across cases of color-blindness, we similarly meet cases of moral blindness. The organization might be faultless otherwise, still there was in many criminals a deficient appreciation of the morality of certain acts, and that deficiency seemed rooted in their constitution. He related the instance of a banker who never could take a liking to anything. He cited instances of perversions of taste, and looked upon this conjointly with color-blindness as next to incurable, and he thought this applied to a large class of criminals. In our incapacity to abolish crime we had to bear with it.

Prof. J. J. M. Angear, of the College of Physicians and Surgeons, who was present by invitation, was asked to take part in the discussion, and made the following remarks: He had had a large experience in the treatment of criminals in the capacity of surgeon to a penitentiary for many years. He denied the inferiority of mental power ascribed to that class by so many writers. He had often been surprised at the proficiency of many of them in languages, the scriptures, etc. He understood that the sulci of the brain were evidences of an increase of the gray matter and consequently represented an increase of force generally in the individual. In cases of this kind, if the nature or

will of the individual became depraved, the greater would the criminal be. He believed in intellectual criminals, that is in criminals who kept abreast of the progress of civilization. Thus, since the common poisons were so readily detected, some criminals would select the rarer ones; after the microscope had revealed the fact that the blood of a dog resembled that of man some murderers would call the blood on their clothes dog's blood, etc. Although the inheritance of pauperism had not been brought up before the society, it was one of the most manifest instances of heredity. Some wealthy people, suddenly deprived of all their means, generally took but a short time to rise again, while families of paupers had often been continued for innumerable generations. As to mental impressions made by the mother on the foetus, he thought there was a little of truth in it, but heredity mostly depended on the impressions made on the spermatozoa and ova while they were in process of formation in the parents. And reformatations were not so liable to be transmitted to the progeny as were the results of early education in the parents. Hence, we should bear in mind that young girls and boys in the early years of their life were forming the minds of the coming generation, and that their education on that account should on that account receive greater care. He related instances of rabid temperance men, born of a mother who abhorred liquor, and of a drunkard father, to show that inheritance might sometimes be one-sided. As to prostitution, he believed that it was probably often transmitted from father to daughter, and that its burden should not rest on the female alone.

Dr. Lewis said that he was not entirely satisfied with the treatment of the subject under consideration, because it had not been explained why there was in certain individuals a lack of moral sense which existed in others, or why should an inferior cerebral development exist in some individuals.

Dr. Odelia Blinn talked at some length on the subject of prostitution, with special reference to a case now before the grand jury. She said she did not believe in calling prostitution a sin as long as it was looked upon as such only by men in their appreciation of women. What was legitimate in one could not be a sin in the other.

After a few more physicians had spoken on the subject, Prof. H. M. Lyman said that he was well aware of the great difference which existed between various intellects, and quoted the statement of a celebrated writer to the effect that there was a greater difference between the higher and lower races of man than between these and the lower animals. Yet, this difference was not one of configuration, but one which should be looked for in the brain mostly. Criminals had certain perceptions of physical relations, but it was probable that they did not have the power of seeing certain moral relations, and in this must consist the greatest difference between men. There was a general resemblance in brains, corresponding to a general sense of morality in mankind. The only remedy applicable to vices, besides repressive law, should consist in making up for a deficient moral sense by proper moral education. Children should be trained into morality. This did not mean religious, dogmatic or theological teaching, but the inculcation of a moral habit. It was a grave error to confine education in the public school to intellectual training only, and a reform was needed in that direction.

EXPLOSIVE MIXTURES OF MEDICINE.—SEMINARIO FARMACEUTICO.

1. Hypophosphite of lime, chlorate of potash and sulphate of iron, mixed in equal proportions, are explosive.
2. A solution of one part of chromic acid and two of glycerine.
3. Chlorate of potash and dental powders containing carbon explode in the mouth.
4. A pilular mass containing permanganate of potash, mixed with vegetable extracts and iron, easily inflames.
5. Chlorate of potash or the permanganate or the other explosive substances must not be triturated with glycerine.—*Rev. Scienc. Med.—Rev. Md. Quirurgica.*

Chlorate of potash and tannin explode if triturated, as do chlorate of potash and sugar. Iodine or an iodide and a nitrate may explode.—*Virginia Med. Monthly.*

Domestic Correspondence.

ARTICLE VIII.

ELGIN, MAY 3, 1883.

EDITORS MEDICAL JOURNAL AND EXAMINER:

Mrs. M., æt. thirty-five years; a widow for several years; never had any children. This lady several months ago applied to me for treatment for a uterine difficulty. Her history was that for nine years she had been undergoing medical treatment from several different physicians of the place, continually growing worse, and at last pronounced incurable. I examined the womb with the speculum, and found the organ considerably enlarged and retroverted, the fundus lying in Douglas' pouch. The mouth of the uterus was as nearly closed as possible. It was with difficulty that I could introduce the smallest-sized probe. She complained of a great deal of pain in the lower part of her back. Her catamenial flow was on her a good portion of the time, as often as every two weeks, and between these spells she would have a show of sanious discharge. My treatment of the case was to dilate the mouth of the uterus and restore the organ to its normal position. This I succeeded in doing with Ellinger's dilater and a uterine 'sound. I had to use the dilater several times, at intervals of two weeks, to permanently open the os uteri. This constituted the principal local treatment. The constitutional treatment was nutritious food, rest, ergot and iron, with occasional doses of potassic bromide. Cured.

H. ROSENCRANS, M.D.

Reviews and Book Notices.

ARTICLE IX.—A TREATISE ON THERAPEUTICS, comprising Materia Medica and Toxicology, with especial reference to the Application of the Physiological Action of Drugs to Clinical Medicine. By H. C. WOOD, Jr., M.D., Prof. of Materia Medica and Therapeutics in the University of Pennsylvania, etc., etc. Fourth edition. Revised and enlarged. 8vo, pp. 736. Philadelphia: J. B. Lippincott & Co. 1882. Chicago: Jansen, McClurg & Co.

This is one of the leading text books on the subject. It is divided in two very unequal parts, viz.: Drugs, and Forces, by which is meant heat and cold, and electricity. The drugs are divided into systemic and non-systemic remedies, the latter being understood of antacids, disinfectants, etc. Systemic remedies comprise general remedies, like the tonics and antispasmodics, alteratives, etc., and local remedies like cathartics, diuretics, emollients, etc. The propriety of such divisions is not very obvious; for instance, to call a poultice a systemic remedy and call an antacid like lime a non-systemic agent, does not seem rational, at least it is not clear.

The author undoubtedly possesses a great deal of discriminative judgment, but presents together the most opposite views of the various experimenters, reserving his decision when their experiments seem not to legitimate their views. The large proportion of the book given to such contradictory statements make the general ignorance of the therapeutic action of drugs quite obvious. One would wish to read more of the author's experiments and of his conclusions, for on such debatable subject innovations are of more value than mere conservative views.

In this, perhaps, the work under consideration is susceptible of much improvement. There is, for instance, the unpardonable omission of the metric system in stating the doses of the various drugs. Very little is said as to the mode of administration of unpalatable medicines, like opium, quinine, etc., that is, so-called elegant preparations, are never alluded to. Many of the latest applications of certain old drugs have been overlooked; for instance, the use of quinine as a stimulant, by so many people, in lieu of alcohol, etc. Under the head of Forces, one vainly expects to find Massage and the Swedish movement treated of. But the strangest inconsistency of the author is his partial disbelief in the dependence of all infectious diseases on organic germs. But as there are so few reliable works on Therapeutics, and that valuable original contributions like Bartholow's Antagonism, appear once in a decade at best, we take pleasure in recommending the use of the present volume to students, and its correction and improvement to the author.

H. D. V.

ARTICLE X.—MANUAL OF GYNÆCOLOGY. Hart and Barbour. Two Vols. (Wood's Library, January, 1883.)

In the preface of this work, the authors avow their belief in anatomy, physiology and pathology of the tissues and organs under discussion, as being the foundation of a clinical text-book. The reader of these volumes will hardly fail to remark the well-ordered manner in which the authors' belief is exemplified. Anatomical descriptions are based upon the results obtained by the authors and different observers employing frozen sections; structural anatomy and physics of the pelvis are clearly stated; while menstruation and ovulation receive a concise and practical description. Plain and practical directions regarding instruments and methods employed in examinations follow. The slippery-elm test is not mentioned, although a favorite with some American writers.

The diseases of the pelvic tissues, beginning with the peritoneum and connective tissue, are treated of in a systematic and thorough manner; the details of treatment are fully described;

the whole result being the presentation of conclusions and results, with practical points, in a manner easy of access and remarkably clear. The pathology of the lining membrane of the uterus is accurately stated. The common affection known as "ulceration" is described as "chronic cervical catarrh," and the name explained by the microscopic study of recent observers.

Ruptures of the perineum are explained and treated with reference to the physics of the pelvic floor; in uterine displacements from defective support, prolapsus is considered a hernia analogous to femoral hernia.

The operations for vesico-vaginal fistula are fully described and illustrated. An appendix treats of specific disease; chlorosis; etiology of uterine disease; the recording of cases, and a *résumé* of gynæcological literature completes the work.

Quotations from German, English and French literature abound. A brief bibliography heads every chapter.

The volumes are copiously illustrated. While some cuts are obscure, the greater portion are plain, and there are several excellent lithographs. For conciseness, clearness and practical information, the work commends itself to the student and practitioner, and forms a very desirable portion of Wood's excellent library.

E. P. D.

ARTICLE XI.—A TREATISE ON ALBUMINURIA. BY W. H. DICKINSON, M. D. Second edition, 8vo. cloth, pp. 300. New York: William Wood & Co. 1881.

This is the January, 1881, issue of Wood's Library of Standard Medical Authors. It is remarkable for its six beautifully colored lithographic plates, representing various diseased conditions of the kidneys, together with thirty-one wood cuts, in the text. The subject matter comprises chapters on nephritis or Bright's Disease, granular degeneration, lardaceous degeneration, and considerations pertaining thereto.

The pathology of diseases of the kidney is considered at length, and micrographs illustrating the same render the study of the subject so much easier. As to treatment, the author gives a synopsis of that advocated by his predecessors, then he warns

one against bleeding, recommends drinking water to dilute the urine, and restricts the use of nitrogenous food to a minimum. He does not favor the indiscriminate use of digitalis. Purgatives form part of the preventive treatment of nephritis. Iron is recommended and gallic acid discarded. Paracentesis seldom required. Baths are of much benefit.

This is one of the valuable volumes of the series in which it belongs, and will repay the small investment with interest.

H. D. V.

ARTICLE XII.—LECTURES ON DISEASES OF CHILDREN ; a Handbook for Physicians and Students. BY DR. EDWARD HEN-
OCH, Prof. in the University of Berlin. 8vo, cloth, pp. 357.
New York: William Wood & Co. 1882. The March issue of Wood's Library.

The value of this manual rests on the extensive experience of the author, which is supported by the timely insertion of reports of cases, and contains much valuable literature found nowhere else. Notwithstanding the contrary anticipation, one finds a number of diseases often met in general practice treated here at length, which are not to be met in more classical works on the same subject. Yet, some diseases are left out purposely, as variola, nor are affections of the eye and ear mentioned, but there are a few pages given to skin diseases.

The treatment recommended is that peculiar to the German school, so well represented in Ziemssen's Cyclopædia; it consists of few but effective measures, and is well adapted for the busy practitioner. Although, perhaps, more valuable in a few respects, it is not at all likely that this book will replace the well known American treatises on the diseases of childhood, partly on account of its being adapted to a so differently constituted people, but at the same time it will remain one of the most desirable books in Wood's Library.

H. D. V.

ARTICLE XIII.—CLINICAL LECTURES ON THE DISEASES OF OLD AGE. BY J. M. CHARCOT, M D., and ALFRED L. LOOMIS, M.D. 8vo. cloth, pp. 280. New York: William Wood & Co. 1881. June No. of Wood's Library.

Gout and chronic articular rheumatism are the diseases treated of by Prof. Charcot, while Dr. Loomis' lectures treat of pneumonia, catarrh, asthma, atheroma, apoplexy, constipation, etc. The introduction gives the history of the subject in an able manner, and is quite interesting, and so is the lecture on the general characteristics of senile pathology. Yet, the prolixity peculiar to French writers is manifest here, and makes the reading of some chapters rather tedious, although eminently erudite. As medical works of this character are quite rare, the publishers deserve the thanks of the profession for issuing this one in such a cheap and accessible form.

H. D. V.

DR. ANDERS reported to the society of physicians at St. Petersburg his results on the treatment of spondylitis with the felt-jacket. He takes first a model of the upper body with plaster Paris, and he has the felt jacket made exactly after this model. He claims superiority for the felt jacket over the plaster Paris jacket of Sayre; and he says that, especially to children, the latter apparatus is not applicable. He has treated fifty patients affected with spondylitis in all stages of the disease. He had some who had abandoned walking for several months, and he says that his felt jackets have been always easily worn and that every case was followed by the most decided success.—*St. Petersburg Wochenchr.*

To remove fish-bones from the throat Prof. Voltolini, at Breslan, recommends a gargle composed of muriatic acid, 4 parts; nitric acid, 1 part; and water, 240 parts. The teeth have to be protected by lard or oil. The fish-bones become flexible and they disappear entirely after a short time.—*Memorabilien.*

Editorial.

MEDICAL EXAMINATIONS BY STATE BOARDS.

The attention of the public, as well as of the profession of this city, has been lately attracted in the columns of the daily press, to the subject of the examination and licensing of practitioners of medicine by State boards. The discussion of the questions connected with this subject was originated by the proposition of the following resolution in the Chicago Medical Society :

“ Resolved, That the public good would be promoted by the establishment of a State board of medical examiners, such board to be entirely separate and independent of all medical colleges; to have the exclusive right to grant license to practice medicine in the State of Illinois, leaving to medical colleges their function of teaching and conferring degrees, but obliging all who in future desire to enter upon practice, and who have not already received license to do so, to go before such board to prove their fitness; and that said board be required carefully to examine all applicants as to their moral, literary, and medical attainments, and only to confer a license on those who are well qualified in all these respects.”

This resolution was finally, after discussion, adopted ; and its mover immediately after offered the following, which in its turn also became the sense of the society :

“ Resolved, That a committee of three be appointed by the chair to represent the Chicago Medical Society, and that they be instructed to confer with the Illinois State Board of Health relating to statements contained in the proceedings of its last meeting; and that this society respectfully requests said board to communicate to our committee any facts in the possession of the

board that will enable the committee to prepare its report for the society."

The agitation of this important subject is timely and profitable. Some reform in existing methods is demanded, both by the profession and the public. The united opinion of the two is likely, at no distant date, to accomplish some actual results. It is time to ask, after due consideration of all sides of the question, what is the best and most practicable method of arriving at the desired end?

Whenever there are conflicting interests in a case at bar, it is commonly deemed prudent to compromise, if possible. Here there are interests at stake; grave interests of right and property, but in reality no interests which conflict. The highest interest of all concerned is best conserved by a single course. In deciding as to the proper course, however, it is neither safe nor wise to neglect any of the interests represented.

Thus, for example, the views of the teachers and representatives of the medical schools of the State should be fully ascertained and accorded weight before action be had in so important a case, lest that action be intemperate or partial, and thus fail of its desired end. Certainly these gentlemen are entitled to such consideration. In years, in learning, and in experience as both teachers and examiners in medicine, they have absolutely no superiors in the State of Illinois. Among the thousands practicing medicine in the State, it would be extremely difficult to select one hundred gentlemen who have done more to elevate the standards of their own ranks, and to contribute more largely to the respect entertained throughout the country at large for their contributions to scientific literature.

Nor is this all. The present professional position and fair prospects of the medical men of the Northwest are largely due to their influence. It is safe to say that over one-half of all the practitioners in the State were made such by their professional studies in Illinois schools of medicine. We cannot but express the conviction that it would be simply monstrous for the graduates of these schools, men who left their walls when the college curricula were admittedly less severe, and the requirements less rigid than at present, to favor any radical measures adverse to

the common interests of those who admitted them to the ranks of medicine, and have since jealously guarded the professional reputation and name of the class with which they thus became identified. Looking at the question from this just and broad standpoint, there can be but one view taken of it. Decidedly, the examination and licensing of qualified practitioners should be conducted by a body of men not interested in their preparation for such an ordeal. We do not believe that there is a really respectable medical school in the country which will object to being relieved of this task, a no small addition to the really arduous labors of its teaching corps, always provided there is an equitable and general system of examinations in force, discriminating against no single institution, and rigorously enforcing its rules in the case of applicants from each and every college.

This is an important proviso. For example, it would be manifestly unfair and unjust to propose an examination for graduates of Illinois schools different from that imposed upon graduates of schools not situated in this State. If any discrimination were to be made, it should certainly favor those applying from our home schools. These home schools are entitled, the respectable ones among them at least, to a special consideration. Some of the gentlemen actively identified with their interests, have toiled incessantly for nearly half a century to establish them solidly, to enlarge their reputations, and to make this fourth city in size of the Union, a great medical educational center, not only of the Northwest, but of the country at large. One-quarter of a million of dollars of invested capital is the fruit of an incredible amount of self-sacrifice and victories won over opposition of the most senseless and ignorant character. Nearly one hundred thousand dollars are annually paid into their treasuries, by far the largest part of which is annually re-expended for apparatus and the expensive requirements of high-class medical teaching. The gentlemen engaged in this laborious effort to perfect and enlarge the American system of education in medicine handed down to us by our fathers in medicine, a system both unaided and unobstructed by legislation, though unquestionably and justly benefited in reputation, have not been rewarded by any such large pecuniary returns as would make them the objects of envy to

those not similarly situated. The wealthy among them are few, far fewer than the professional men of wealth not enjoying such a connection. Many of them are financially in very moderate circumstances. What measure of success they have attained, is the reward of the self-sacrificing toil of years. These are considerations which the fair-minded will not ignore. If Illinois is to be so discriminated against by legislation that the young men of the Northwest, ambitious to enter the profession, find it necessary to pass by her doors and to seek their medical education in Massachusetts, or New York, or Philadelphia, let there be, we repeat, an impartial reviewing of the whole question before any irrevocable steps be taken. An unjust law usually defeats itself. Manifestly the only strictly fair and impartial system of examining and of licensing practitioners, would be one operating equally in all States of the Union, in New York as well as in Illinois, in Massachusetts as well as in Iowa.

A board of examiners, authorized to license for practice, and limited in its powers to this State, would not necessarily do all and be all that the dream of a *doctrinaire* might devise. Would there be a scramble for its membership in order to gratify the friends or the enemies of the several schools affected by its operation? Would it be insensible to the influences which have been powerful in the similarly constituted British Examining Boards? Creature of legislation, would it be superior to the corruption of American politics and politicians? Would it surpass the standards of the Illinois State Board of Health, which has, as a matter of fact, examined, passed and licensed under-graduates of Illinois medical colleges? Would it operate, as the last-named body has operated, as the fulcrum of a lever to elevate in public honor and esteem eclecticism and homœopathy, which have thus acquired a legal status and privileges? Would it refuse a license to the illiterate adventurer from a wretched little diploma-mill in Boston, and yet be powerless against the men in this city practicing under false names? Would it exact a fee for its examinations, and eke out a scanty legislative appropriation by subsistence of this sort? What would be the pay of its members? The United States Government lately offered but \$2,500 *per annum* for some

medical experts it needed. Can the State offer more than that to its examiners? Where are the men more just, better trained, wiser in science, and more skilled in medical examinations than those now doing this work, whose medical practice is so small that such a salary offered by the State is a temptation to abandon the former for the latter? Will such a board of examiners be mongrel in constitution, the irregulars disproportionately represented, thus inducing inferior students to graduate from the poorer schools possessing such disproportionate power in license? These are serious questions, and they must be answered. The respectable medical schools of this State would be indeed short-sighted if they did not welcome a just and equitable system of examination, but, stripped of their present powers and with the questions unanswered which are set forth above, they had better dispose of their property at once and invest it in something more respectable and profitable than mimicking a court fool to secure the favor of a prince.

Far better than a mongrel board would be a committee appointed by the State Medical Society of each sect, empowered by State law to examine the candidates of their own persuasion. Then, indeed, the State might license, and license only as thus advised, the physician and surgeon to practice and announce himself to the public only as a physician and surgeon; the homœopathist, only as such; the "physio-medical," the eclectic, *et id omne genus*, only as such.

But even under such a system as this, the poorest students would naturally seek the poorest schools, as offering them a cheaper, shorter, and readier pathway to the privileges of practice. Released from the control and influence of even a mongrel board, the sects would flourish most if the seal of the State were finally set in approval on the licenses furnished each. It is difficult to see how the best schools will fail to be the greatest sufferers under *any* law. They have indeed achieved, acting solely under the laws ensuring the survival of the fittest, in point of the number of students in attendance upon them, as well as in the matter of professional reputation and professional influence, an unquestioned supremacy. This is so well recognized, that their methods and manners as regards the public, are copied to the very letter by the smaller and inferior schools which aim to be their rivals.

The injustice of a law which operates unequally in different States of the Union, is so manifest that it scarcely requires comment. If a physician be such by virtue of the laws of the State of New York, has the State of Illinois power to disqualify him for practice? If she should attempt this, there can be but little question that an issue will be taken in some case for final presentation at the bar of the Supreme Court of the United States.

We have then a word for those who are interested in this matter—and every member of the profession should be so interested. Let the concurrence of the colleges be secured at the outset. The movement is timely, and may lead eventually to the most desirable results. If there be a medical school in the country, of respectable standing, which objects to the operation of a general system of examination and license, uniform throughout the whole country and impartial in operation, let that school bear the opprobrium which such an opposition will deserve. But if an effort is to be made (and there are indications that it will be made), to empower the Illinois Board of Health to examine and license the graduates of the medical schools of this State, such an effort will awaken the united opposition of the colleges and the large mass of reputable physicians in this State who are in affiliation with them. Before any such power shall be vested in that body, there will be a demand for its reconstruction, which will be loud and emphatic. When the Governor of the State of Illinois, recognizing the influence and numbers of the professional men of the city of Chicago, called together some of its representative members, many of them connected with the medical schools of the city, and requested them to nominate to him one of their number as a member of the State Board of Health, he gave weight to their opinions by appointing their nominee. Doubtless the same men can and will, if occasion arise, make their influence again felt. Before the Illinois State Board of Health is empowered to examine and license the graduates of the medical schools of this city, it will cease to be mongrel in character, or if not, will in its membership represent in due and just proportion the thousands of respectable practitioners in this State, as against the claims of homœopathists, eclectics, clergymen, lawyers, politicians, and decayed place-seekers of every description.

Translations from Foreign Exchanges.

BY O. STROINSKI, M.D.

THE EFFECTS OF RUSSIAN BATHS.

Scientific researches as to the influence upon the human system of Russian baths, have recently begun, and Tumas. Sas-jetsky, Fjalkoffsky, Tarehanoff and others have published their experiments. Dr. Godlewski has recently made extended experiments on two healthy persons for twenty days, with and without the application of heated birch-rods. In all the experiments, the air was not entirely saturated with hot steam, and the examined persons were equally nourished, and had an amount of work to do sufficient to preserve the regular "nitrogen equilibrium." For five days before the first series of experiments, the two persons were thoroughly examined. Then a series of baths was given for ten days without application of birch-rods, after which followed a series of baths with birch-rods for ten other days. After this time, the persons were closely observed for five days. The experiments were made in the following order. The patients having arrived in the bathing institute, 1, the pulse was counted exactly over the radial artery; 2, the number of respirations was determined; 3, they were weighed; 4, the capacity of the lungs was measured with the spirometer (three times); after having undressed, they rested for a few minutes, and then, 5, the temperature in the axilla and the rectum was taken; 6, the force of inspiration and expiration was measured by the masked pneumatometer, the highest numbers being noted; 7, the circumference of the chest was measured with a leathern strip on places which had been marked with nitrate of silver; in front, on the fifth rib,

and on the back at the superior angle of the scapula, the arms being horizontally raised, (a) in regular breathing; (b) in deep inspiration; (c) in total expiration; 8, with the same strip was measured the circumference of the abdomen and of the upper and lower extremities; 9, the muscular force was determined, (a) in the hands by pressing upon a hand-dynamometer; (b) in the feet by pressure upon an oval dynamometer which was fastened to a board; (c) the force of the body was measured by connecting the latter dynamometer with a hook-formed mechanism, the hands pulling the hook. The two persons were then sent to the bathing room to be soaped (middle temperature of the first series being 38.6° Celsius, and of the second series 44.4° Celsius). They washed themselves with warm water (first series 47.95 , and second 45.10 Celsius). Twenty minutes after being soaped, the pulse and respiration were counted, and the temperature in the axilla and the rectum was measured. Then they stepped upon the elevated bank; in the first series but lying on the bank; in the second series being whipped with the birch-rods (temp. 64.1° C.). After this repeated pneumatometric and dynamometric measures were taken. The urine was collected every 24 hours, the specific gravity determined with the urinometer, as also the quantity of nitrogen, phosphoric and sulphuric acids present. The results of these very minutely executed experiments are as follows: 1. The pulse was accelerated. 2. The respiration increased. 3. The circumference and the expansion of the thorax enlarged. 4. The force of inspiration and expiration were diminished. 5. The capacity of the lungs was lessened. 6. The temperature in the axilla and the rectum was higher. 7. The weight of the body was considerably diminished. 8. The circumference of the arms and legs was enlarged. 9. The circumference of the abdomen was diminished. 10. The muscular force in the hands was not very much decreased, but that of the legs and the trunk considerably. 11. The quantity of urine in 24 hours was diminished, but the specific gravity increased. 12. The quantity of nitrogen was considerably larger, as was also the quantity of sulphuric and phosphoric acids.—*Wratsch*.

SOME ACCIDENTS IN OVARIOTOMY.

1. Susanne K., thirty-three years of age, entered the Dorpat hospital with a large abdominal tumor. Some months after her third confinement, she noticed a small movable tumor above the symphysis pubis, which increased slowly. After four years she became pregnant again, and the tumor was now situated on the right side, just below the ribs, and sometimes caused great difficulty in respiration. The woman was well nourished, three months pregnant, and the round tumor was movable, and extended from the umbilicus to the ribs. The abdominal walls being separated by incision, a simple cyst was punctured and the long pedicle secured. Deep sutures were passed through the abdominal walls and the peritoneum. Eight days after the operation, the sutures were removed, and the wound healed per primam. It was covered with adhesive plaster and cotton. On the next day the nurse noticed the cotton to be wet, and the patient complained of pain. The patient was immediately given opium and then etherized. The wound was now seen to have opened in its entire length, and the intestines and a large part of the omentum protruded through the opening. A fibrinous exudation covered the intestines, very difficult to remove. The margins of the wound looked entirely healthy, and as fresh as after the operation. Other sutures were introduced, and left for two weeks. The patient recovered, and the pregnancy was not interrupted.

2. Anna M., twenty-six years of age, noticed a tumor in the abdomen about a year ago. Shortly afterward she became pregnant, and the confinement was normal. Abdominal palpation showed a tumor extending from the symphysis pubis to the umbilicus, and composed of nodes as large as an apple. The vaginal portion was situated on the left side, and nodular tumors were felt throughout the vagina. The uterus was normal and movable, the tumor being moved without difficulty. The diagnosis was multilobular cyst of the left ovary, probably carcinomatous and adherent. In the operation following, the tumor was found to be adherent to the omentum, and intimately connected with the colon ascendens. The pedicle was first secured, and all adhesions to the omentum separated. Then the adherent piece of the

mesocolon was secured by two spring-pincettes, and the intestine excised. Large sponges prevented the entrance of blood into the peritoneal cavity. The tumor was now removed, and the mesocolon united by twenty-three sutures. The tumor was a dermoid cyst, containing long hairs and the nodules of an alveolar carcinoma. The woman recovered, but later another tumor appeared on the right side.—*St. Petersburg Med. Wochenschr.*

EXTIRPATION OF A MYO-FIBROMA OF THE UTERUS PER VAGINAM.

Dr. Mikulicz, of Krakow, reports the following case: The patient, a woman 29 years of age, suffered from hæmorrhages for a year and a half. Intense pains came on afterward, and the patient noticed a tumor over the symphysis. She was of medium size, and very anæmic. By palpation of the abdominal walls a tumor was felt as large as a child's head; per vaginam a tumor of the size of a fist was found situated in the posterior wall of the uterus. The cavity of the uterus reached as high as the navel; and a part of the tumor was imbedded in the cervix. The diagnosis was intramural myoma of the posterior wall of the whole uterus. The operation was performed as follows: The perinæum was dissected down to the sphincter ani, and the greater part of the posterior vaginal wall down to the rectum. The lower part of the tumor was then seized and by two lateral cuts its capsule was entered. The latter was enucleated in the usual way by entering the capsule with blunt instruments and tearing the tumor down with the forceps. The upper part offered considerable resistance, and it was only possible to extirpate the growth in fragments. Then the whole hand entered the cavity of the tumor and the rest was enucleated by the fingers. But there was another subserous tumor intimately connected with the large intramural growth. The uterus was therefore inverted and the rest of the intramural and the whole subserous tumor removed by scissors. The peritoneal wound was sutured by carbolyzed catgut, which was easily done on the inverted uterus. The sutured part was then washed with a 3 per cent. carbolic solution, and iodoform applied to the wound, the fundus uteri reopened, and three drainage-tubes inserted. The vaginal wall and the

perinourm were then sutured with catgut and a compresses applied to the abdomen. There were no febrile nor septic results. After three weeks the patient left the bed, and, in 30 days, the hospital.—*Wiener Med. Wochenschrift*.

HÆMATOMA OF THE PANCREAS.

The patient, 40 years of age, had acquired an acute gastritis, by taking a very hearty meal. A few months after, he noticed a tumor growing in the region of the stomach. Examination showed, between the umbilicus and processus xiphoides, a tumor which was fluctuating and of the size of two fists. The course of the disease did not indicate a sarcoma or an abscess, but a cystic tumor of the pancreas was most probable. The abdominal walls having been dissected the transverse colon was separated from the stomach and a solid cyst laid bare. To the anterior surface of this cyst the parietal peritoneum was affixed by sutures, and in this procedure a dark ink-colored fluid flowed through a deep suture; 1900 c.c. of a similar fluid were removed, and the walls of the cyst split open. The internal surface was smooth; near the colon were some ragged masses. The cavity was washed out and an antiseptic treatment followed. After the first few days, a bloody serum was discharged and some black masses expelled, but the course of the disease was afebrile. The discharged fluid was recognized as altered blood, showing hemine by chemical analysis, and by the spectrum. After a few days an eczema appeared around the wound such as is seen in fistula of the stomach; and the discharged fluid showed all the characteristics of the pancreatic fluid (digesting albumen, forming leucine and tyrosine, and changing amyllum into sugar). The patient has at the present time a fistula 3 cm. long and 4 mm. broad, which is probably a receptaculum for the pancreatic fluid, while the ductus is probably closed. The tumor was a hæmatoma of the pancreas.—*Weiner Med. Wochenschrift*.

UNILATERAL ALBUMINAR RETINITIS.

The patient, a soldier, forty-three years of age, entered the hospital with symptoms of profound cachexia. General anasarca, with difficult respiration, and a large amount of albumen in the

urine, indicated the presence of kidney disease. On further examination, it was found that there was but one kidney, which was attacked with parenchymatous nephritis. The patient believed his trouble to have originated from a bilateral epididymitis, and there was in fact an induration of both testicles, with chronic hydro-vaginitis of the right side. The prostate was also indurated in some parts, and generally hypertrophied. To insure the correctness of this diagnosis, the eyes of the patient were examined by the ophthalmoscope. The right eye was perfectly normal, the cornea and lens being clearly transparent, and the choroidea and retina in a healthy condition. The left eye, however, showed all the lesions peculiar to albuminar retinitis. There were two oval plaques of whitish-yellow color situated behind the vessels in the external layers of the retina. The retinal vessels were seen, thus contrasted, even more clearly than usual. The seat of the lesion was doubtless in the granular layer, and of a degenerative character. Another spot, of a blackish-yellow contour, was found on the superior part of the papilla, in the angle formed by the bifurcation of the two ascendant branches of the superior artery, and this spot was produced by fatty degeneration of the external elements of this part of the retina. Visual troubles were at first wanting, but later there were aggravated symptoms, confined to the left side. In the autopsy, the right kidney was found wanting, and the right eye was perfectly normal, while the left kidney was attacked by parenchymatous nephritis, and the left eye by albuminar retinitis.—*Recueil d'Ophthalmologie*.

HEREDITARY SYPHILIS AND RACHITIS.

The lesions of hereditary syphilis and of rachitis are of the same character, the latter being more developed. In hereditary syphilis there is either cutaneous or mucous ulceration, or there are visceral lesions or desquamative syphilis of the tongue. It is always necessary in cases of rachitis to look for cicatrices and defective second dentition. In rachitis there are three principal types of osseous lesions: (1) hard osteophytes; (2) gelatiniform atrophy; (3) spongy tissue or true rachitis. But all cases are not the same. Sometimes rachitis begins in a child of three years, without any other lesions. In the first type the

bones are normal except the ostesphytes which are of considerable size, and situated mostly on the lower half of the humerus and on the internal aspect of the tibia. In the region of the apophysis, there are found one or two spots a millimeter in diameter of a friable chondro-calcareous substance, which is a calcareous infiltration of the cartilage tissue. These lesions are observed in the foetus and in children up to the sixth week of age. Later there is found gelatiniform atrophy, certain parts of the bone being filled with a yellowish red tissue. The bones of the cranium are often perforated by this mass. On the extremities of the long bones there is sometimes true juxta-epiphyseal luxation, a syphilitic pseudo-paralysis. In the third stage the extremities of the long bones are entirely changed, the tissue being spongiform. Of 100 cases of rachitis, there are found syphilitic lesions in 90, and the other ten have osseous changes only.—*Le Praticien*.

CEREBRO-SPINAL SYPHILIS AND ITS SPECIFIC TREATMENT.

In modern neuro-pathology a knowledge of no diseases has made more rapid progress than that concerning cerebro-spinal syphilis. A good many well observed cases have been reported in the last twenty years. Bouchat found in three months four developed cases. The first patient had all the symptoms of common hemiplegia, resulting from an attack of apoplexy without any nervous troubles and without any other lesion. After taking mercury and iodide of potassium for a few days, the mobility of the limbs returned, and the patient, after a short time, was cured. This patient had, in the first instance, been declared incurable. Another paralytic person, a child one year old, with delirium agitans and epileptiform attacks, accompanied by hemiplegia of the left side of the face and of the extremities, showed suddenly a paralysis of the third pair on the right side; and then the syphilitic origin of the malady was ascertained. This coincidence, namely, the ocular paralysis on the right side and hemiplegia on the left, was of course an indication of bilateral lesions on the base of the brain. The third patient was attacked with epileptiform phenomena without loss of consciousness, and no cephalic pain. This epilepsy was circumscribed by localization

as affecting certain muscles of the face. The patient had frequent vomiting, amblyopia at intervals, and partial loss of memory. By taking iodide of potassium and mercury, the attacks diminished, the vomiting ceased, the voice returned and the memory was restored.—*L' Union Médicale*.

THE TREATMENT OF SIMPLE ULCER OF THE STOMACH.

The good results of treatment of simple ulcer of the stomach with milk diet are well known, but there are persons who cannot digest milk, and some are affected by it so that they take a cup of milk to regulate their bowels. In these persons it will be utterly impossible to give a regular lacteal regimen in the usual way. But the introduction into the stomach by œsophageal tubes changes certain conditions entirely. With the œsophageal tube several quarts of milk have been introduced into the stomach, and it has been retained without trouble. The œsophageal tube suppresses the repeated vomiting, and this artificial alimentation will be tolerated for a long time. The same patient who will begin to vomit when taking the glass of milk into his hand will introduce the œsophageal tube into his stomach and pump in a pint of milk without trouble. To avoid a possible rupture of the ulcer by enforced dilatation of the stomach, it is advisable to introduce not more than a pint at once. The convalescent patient can take from 5 to 6 pints of milk a day. But the introduction of the tube, six times a day would be imprudent, and it is, therefore, advisable to introduce the milk in a concentrated state. Recently the cream of the milk has been reduced to a powder, 120 grm. of which are equal to a pint of milk. This powder can be dissolved in a small quantity of water and introduced into the stomach *ad libitum*.—*L' Union Médicale*.

RETENTION OF A FŒTAL HEAD IN THE UTERUS FOR FORTY DAYS.

This patient presented herself apparently in full health, and there was nothing noticed about her save an insupportable stench. The pulse ranged from 72 to 78; the tongue was clear; the temperature normal; the appetite good and digestion perfect. She

said that she was delivered of a child, 40 days ago, and that her physician was not able to extract the head as it followed the body, and so cut it off and left her. Examination detected a tumor over the symphysis pubis of the size of a child's head, and the walls of the anteverted uterus gave a crackling sound. Injections into the vagina had been made, and ergot administered without any effect. The cervix was in a normal condition, *i. e.*, contracted to the normal size, while the walls of the body of the uterus containing the foetal head were enlarged, and gave the crackling sound. During all the time a foul smelling fluid came from the uterus. The cervix was dilated with compressed sponges until the application of instruments was possible. Then a polypus forceps was introduced, and the smaller bones removed. The large bones had to be curved into each other and an incision into the cervix had to be made so as to make extraction possible. The patient never had fever and the temperature was normal through and after the operation. The uterus contracted easily, and a few injections removed the remaining fetid fluid.—*Med. Chir. Centralblatt.*

HERNIA OBTURATORIA INCARCERATA, WITH OPERATION AND RECOVERY.

Incarcerated hernia obturatoria is not frequently observed, and the operations for its relief have not been very successful. The following case will, therefore, interest the surgeon. The patient, a lady, 65 years of age, complained of colicky pains and retention of feces with flatus for three days. There was also vomiting and pain in the left lower extremity. The abdomen was tympanitic and the cavity between the adductor longus muscle and the rectus femoris was not as deep as usual. Reposition was not successful. In the region of the foramen ovale there was detected on the next day a small, hard body, and all the other symptoms continuing, hernia obturatoria was diagnosticated. An incision was made from the lower margin of the os pubis on the adductor longus, the latter separated, and the pectineus elevated by blunt instruments. Severe hæmorrhage set in. The sac was opened with blunt instruments, but there were some parts on the margin of the sac which were very hard, and whose separation was found to

be very difficult. The intestine was reduced and the wound covered with iodoform and cotton. The wound healed but slowly, the tissue being of unhealthy appearance. The woman recovered entirely.—*Aerztl. Intellig.-Blatt.*

SPONTANEOUS SEPTICÆMIA ORIGINATING FROM EXTRA-PUERPERAL SALPINGO-PERITONITIS.

The patient, 33 years of age, had a chill the day before she entered hospital. Ten years ago she was delivered of a child; and she contracted afterward, by hard work, a prolapsus uteri. She has now some red spots in the face, and she suffers from continued vomiting. There is high fever, pulse 132, exanthema on the chest, and the sphincter and os vesicæ are uncontrollable. The following day the exanthema is of a violet color and more diffuse. There was some cough. The next day some pains in the abdomen; lungs affected; after three days she died. The autopsy showed all the symptoms of septicæmia, suppurative peritonitis, resulting from suppurative salpingitis, bilateral pleuro-pneumonia, nephritis parenchymatosa, and œdema pulmonum. The suppurative peritonitis which induced the septicæmia with resulting death was here caused by the suppurative salpingitis which latter was probably produced by traumatic influence. A puerperal origin is here excluded, the person having not been pregnant for the last ten years. But the rapid course of the disease is similar to that of puerperal peritonitis, and the septic infection had been of an intense character.—*Aerztl. Intellegenzbl.*

MOLLUSCUM FIBROSUM.

The patient, a mariner twenty-four years, has never had syphilis, and was of an exceedingly healthy family. In 1879, while starting on a tour in the West Indies, he noticed some nodes on his hands, some of which grew rapidly. Then they remained as they are now. These nodes are dispersed over the whole body, and while they are more confluent on its anterior surface they are more discrete on the back, and there are but a few on the forearms and legs. On the thorax, they form a group of nodules resembling plums, which are cut through in the middle and giving the surface an undulating aspect. Their consist-

ency differs according to their volume. The large ones are pendulous, and they seemingly contain fluid, the small ones being hard. These tumors are all sessile. The skin retains its color, except at the level of the largest tumors, where it is violet and glabrous. They are composed of fibers of connective tissue.—*Gazette Médicale de Nantes.*

PROLAPSUS OF GASTRIC MUCOUS MEMBRANE THROUGH THE UMBILICUS.

A boy, thirteen years of age, had a reddish tumor of the umbilicus, covered with mucous membrane. The tumor was fastened to the umbilicus by a small pedicle, and it secreted a turbid, sour reacting juice. This secretion was increased by contact, and after meals, when the tumor was larger and more highly colored. Fibrine was dissolved by the sour reacting fluid. The extirpated tumor was microscopically examined, and proved to consist externally of the gastric mucous membrane, and internally of the muscular and serous layer of the stomach. The tumor had been noticed after detachment of the umbilical cord from the child. The prolapsus of the pyloric portion had probably been provoked by a dislocation of the pylorus near the umbilical cord, and the midwife had probably caused the total prolapsus by cutting the umbilical cord too short.—*Deutsche Zeitschr. f. Chirurg.*

PAIN IN RIGHT ILIAC REGION.

A servant girl, 19 years of age, complained of pain in the side and in the region of the right anterior superior spinous process of the ilium, as far as the knee. There was no fever, but slight tenderness on pressure. Warm baths increased the pain, and the faradic current was applied without any result. Then a large magnet was attached and the pain ceased immediately. The same experiment was always followed by the same results, but when the magnet was heated no relief was attained. Then ice was placed on the the painful region, with the same good results, and the author thinks that only the reduction of the temperature on the applied part gave the relief. All the other remedies failing, at last a single hypodermic injection of morphine cured the patient.—*Med. Chir. Centralblatt.*

ENCHONDROMA OF THE PAROTID.

Nusbaum calls attention to the following points : After extirpation of a sarcomatous testicle the parotid is mostly suddenly attacked, and, *vice versa*, after expiration of the parotid, sarcoma of the testicle will appear. In operating on the parotid the pes anserinus ought not to be touched. It is rather advisable to leave a small part of the enchondroma in the tissue, and to operate rather with the fingers than with scissors. The lesion of the facialis is a deleterious accident, resulting in incurable paralysis, with the mouth and the eye of the same side half opened and saliva flowing continuously from the mouth. His Royal Highness Duke of Bavaria, Dr. Carl Theodor, is a very able operator in extirpation of tumors of the parotid.—*Aerztl. Intelligenzbl.*

RETENTION OF PLACENTA ; INJECTIONS, FOLLOWED BY DEATH.

An anæmic woman, thirty years of age, entered the hospital under the following circumstances : Two weeks ago, two children were born, and two placentæ expelled. But two days afterward a third child was expelled, but the placenta remained. A foetid fluid was discharged after that time. There was tumefaction of the whole genital tract, and the placenta was enclosed by the contracted cervix. The placenta was seized by forceps, but on account of severe hæmorrhage, a tampon was applied. Injections into the vagina and uterus were made. Suddenly she had a high fever, and died three days after. The autopsy showed peritonitis, with a fluid in the abdominal cavity which had entered through the fallopian tube.—*Le Praticien.*

PROLAPSUS RECTI CURED BY A NEW OPERATION.

The general treatment of prolapsus recti is excision of the protruding part and suturing the rectal mucous membrane to the sphincter. Dr. D'Antona has performed with success the following operation on a woman: Seizing the prolapse with four Billroth's pincettes, and forming thus two cylinders of the rectal canal, he introduced one catgut suture into both cylinders and then into the margin of the anus. Another suture is passed through the middle part of one cylinder, carried through the Douglas sac,

and the perirectal tissue, returning to the other cylinder. The patient is discharged, cured in 15 days.—*Il Morgagni*.

PAPILLOMA OF THE BLADDER.

The patient, 43 years of age, has suffered for six months from hæmorrhages through the urethra, with evacuation of tissue corpuscles. By examination per rectum, a tumor on the left side of the bladder was found. For three days after examination there was severe hæmorrhage from the bladder. Entering the bladder through the opened perinæum the introduced finger felt a pedunculated tumor which was detached by torsions with the forceps. The tumor was of the size of a walnut, and it proved to be of benignant character. The patient was discharged entirely cured.—*Archives Générales*.

ECHINOCOCCUS IN THE RIGHT PLEURAL CAVITY..

A boy, 12 years old, was taken sick with symptoms of pleuritis. The right side of the thorax was found to be dilated, and the intercostal spaces enlarged. Respiration was retarded, but there was little albumen in the urine. He had suffered from malaria for a long time. At the autopsy a thick serous fluid was found in the pleural cavity; and in the region of the fifth intercostal space there was an echinococcus cyst containing a clear fluid and many echinococci. The right lung was atrophied and the bronchial tube of the same side reduced to a mere filament.—*Lo Sperimentale*.

ERYTHEMA MULTIFORME AND SYPHILIS.

Prof. Neuman publishes a series of cases in which erythema multiforme and nodosum appeared in syphilitic persons right after or during the treatment of syphilis. These cases seemed to prove that the syphilitic diathesis changed the blood and lymph vessels of these persons so as to provoke erythema. The cases were observed in the same ward and under similar circumstances.—*Med. Chir. Centr. Blatt*.

TIC DE SALAAM.

Tic de salaam, or eclampsia mutans, is of rare occurrence. The attack begins with a certain restlessness, the eyes are then widely

opened and fixed on certain objects. Then the head is suddenly flexed to the thorax, and the upper body bent forward, while the arms are thrown forward. These movements are rapidly executed, and they are repeated from 10 to 30 times. Consciousness is perfect. The disease has hitherto proved incurable.—*Revue Médicale*.

DOUBLE PLACENTA.

After the birth of the child a large placenta with the cord attached was delivered, and the physician naturally thought everything all right. But, half an hour afterward, labor-pains began again, and there was expelled another placenta about half as large as the former, and without a cord. The blood vessels in the cord, as well as in both placentæ, were exceedingly small. Both specimens were presented at a meeting of the Academy at Paris.—*Archives Générales*.

MALARIA IN FLOWER POTS.

Dr. Eichwald, of St. Petersburg, reports the case of a lady who lived constantly in a room filled with flowers in pots, and who thus acquired an intermittent fever with symptoms of true malaria. It is not the smell of the flowers which produces sickness, as generally believed, but the dampness emanating from the earth in the pots. In this case the lady lived in a region absolutely free from malaria and other fevers.—*Med. Chir. Centl. Blatt*.

ON TRANSPLANTATION OF MUSCLES.

After extirpation of a large fibro-sarcoma from the superior part of the biceps brachii muscle a piece of the biceps femoris of a dog was implanted. Three months afterward, the electrical current showed normal behavior of the muscle. The implanted muscle proved to be as irritable as the original, and there was a visible contraction of its entire muscle when the elbow-joint was flexed.—*Petersburg, Med. Wochenschr*.

Selections.

REMARKS ON 177 OPERATIONS FOR ENTROPION AND TRICHIASIS. BY F. C. HOTZ, M. D., Chicago, Ill.

The author of a new operation or of a modification of an old method ought, after a few years, to give a candid report of his experience. If his operation has proven a success, the profession will readily adopt it; if a failure, it is no less important for the profession to know it. But sometimes we do not learn of the results because they have not been very brilliant. For fear, therefore, my silence might be misinterpreted, I wish to give a brief report of the results I attained in the past four years by the operation for entropion and trichiasis published in volume viii, No. 2 of these Archives. And at the same time I wish to supplement my former paper by a few remarks on the operation.

The essential features of my operations are these: The skin of the eyelid is incised transversely in the line of the upper border of the tarsus of the upper lid (or along the lower border of the tarsus of the lower lid); the muscular layer covering that border of the tarsus is excised (about 3 to 4 mm. in width); and the cutaneous edges of the incision are brought in close adaptation with the cartilage by sutures which are passed right through the border of the tarsus and the tarso-orbital fascia.

The success of the operation depends a great deal on the correct incision; it is, therefore, of paramount importance that the surgeon has a clear idea of this point. Now, I have several times seen my incision described as being made 2 mm. above the free border of the eyelid. Nothing could be more erroneous than this statement. Perhaps the error was caused by my saying (*l. c.*, p. 255): "I apply the point of a scalpel at a point 2 mm.

above the inner canthus and draw a horizontal incision across the lid to a point 2 *mm.* above the external canthus." He, of course, who had read the preceding passages with attention, and only looked at the wood-cut accompanying the description, could never get so false a conception ; for it was expressly remarked the incision should follow, as closely as possible, that furrow which is the border line between the skin of the eyelid and the supratarsal integument. This furrow (in the upper lid) describes a curve beginning 2 *mm.* above the inner canthus, and ending 2 *mm.* above the outer canthus, but its center is from 6 to 8, and sometimes even 10 *mm.* removed from the cilia. But as the free mobility of the tarsal skin makes it exceedingly difficult to make the curved incision with the desired precision and nicety, I suggested temporarily to change the curve into a straight line : " I seize, between thumb and forefinger, or with a pair of forceps,* the center of the free edge of the lid and draw it downward until the skin is moderately stretched. As both the commissures are fastened to the bones and thus rendered immobile, the center of the lid alone is affected by this traction, the free edge obtains a convexity downward, while the curved furrow which marks the upper border of the cartilage is reduced to a straight horizontal line." In other words, the center of the furrow and the center of the ciliary edge are displaced downward at the same rate, their original distance being uninfluenced by the traction. Consequently, an incision which follows that furrow while temporarily drawn out to a horizontal line, begins and ends 2 *mm.* above the commissures, but its center recedes from the lid border 6, 8 or 10 *mm.*, according to the varying width of the tarsus. This incision sacrifices nothing of the tarsal skin ; the lid retains after the operation its original integument, and in consequence thereof its natural appearance and unimpeded movements, so that this operation, judged by its cosmetic effect, may be considered superior to all other procedures.

Some surgeons, I have noticed, make the incision too near the cilia, because they seem still to believe the eversion of the inverted lid requires a strong traction, obtained from the forcibly

*If the eyelashes are too short to offer a good hold to the fingers.

stretched skin. I explained on former occasions why this opinion is wrong and should be dropped, and my numerous operations are the best practical evidence in support of my theory, that a very small force and a slight tension of the skin are sufficient for the cure of entropium, provided the tension proceed from a fixed point, such as the upper border of the tarsus offers.

When the skin of the eyelid is very flaccid and wrinkled, or when the excision of a wedge-shaped piece of cartilage is contemplated, whereby the width of the cartilage would be diminished, only in these cases may the incision be made below the oft-mentioned furrow to avoid having a super-abundance of skin after the operation. But should the incision be made in the furrow and the tarsal skin afterward be found super-abundant, the mistake can easily be rectified by the removal of a narrow strip of skin from the lower border of the wound. At all events, it is better to make a mistake in this rather than in the opposite direction; for if the tarsal skin turns out to be too wide, it can easily be shortened; but if too short, it cannot be lengthened. An evil consequence necessarily resulting from the short-cut skin is the great difficulty of uniting the edge of the tarsal skin with the upper border of the tarsus. Either it cannot be done at all, or only by unduly stretching the skin. In the first instance, the sutures cannot pass through the border of the tarsus at all; and in the second case, the tension being too great, they are likely to cut through prematurely, allowing the abnormally stretched piece of skin to recover its natural state, in which it is wholly insufficient to cover the whole surface of the lid and to unite with the upper border of the cartilage.

Only when the tarsal skin becomes firmly united with the border of the cartilage is the permanent success of the operation insured. In the highest degrees of entropium and trichiasis, with much contraction and incurvation of the tarsus, it is a common occurrence that the upper border is as much curved in as the lower; and the edge we see after removing the muscular layer is not the real upper line of the cartilage, but the angle of incurvation. In order to avoid mistaking the apparent for the real upper border, and to make sure that the sutures hold the real

border, I have adopted the following plan: After the needle has been drawn through the cut edge of the tarsal skin, I prick it into the cartilage near its upper border, and with it lift the lid off from the eyeball far enough to push one prong of a finely-toothed forceps from above downward between the lid and eyeball, while the other prong passes down in front of the cartilage. In this way the upper border of the tarsal cartilage must get between the prongs of the forceps, which hold it so well that the needle can transfix it with the greatest precision and safety at the properly selected point. I have never seen any untoward symptoms arise from this manipulation.

Canthotomy and canthoplasty were often performed in connection with my operation, and in all cases presenting a thickened and contracted tarsus, Streatfield's grooving was combined with the operation. The splitting of the tarsal edge has been discarded as useless; its immediate effect upon the position of the eyelashes is very nice, to be sure, and lasts about as long as the gap in the lid border. When the gap is filled with granulations, the inevitable contraction of the cicatrical tissues will do its work so thoroughly that the gap is contracted to a fine linear scar in the tarsal edge, and the eyelashes, yielding to this traction of the scar, begin to bend down again. The same objection applies to Ammon's and similar incisions made behind and parallel with the tarsal edge into the conjunctival surface of the lid.

And now a few words about the results of my operations. In the space of four years (Sept., 1878, to Oct., 1882,) I have performed 177 operations for entropium and trichiasis, of which 142 were on the upper lid and 35 upon the lower lid. Among the cases there were all sorts and grades of inversion represented. Although I have kept a careful record of all the cases, noting the state of the lids before the operation, the healing process, the result at the time when the patients were discharged, as well as the condition of the lids at subsequent examinations (when such opportunity offered itself), I shall not annoy the readers by statistical tables, but content myself with saying that the results generally have been satisfactory in the highest degree, and that I value the operation the more, the oftener I have performed it.

Among all the 177 cases there was not one in which the operation failed directly. In several cases, I admit, the eyelashes were not everted as much as I expected after the sutures were tied; but upon re-opening the sutures—as I always did under these circumstances—I found the imperfect effect to be due to faulty application of one suture or the other. Either the thread had not passed through the border of the cartilage at all, or only so superficially that it cut through when the knot was tightened. The readjustment of the faulty sutures always had the desired effect upon the position of the cilia. “Haste makes waste” and is not compatible with my operation which will therefore not likely be a great success in the hands of those who can spare but five or ten minutes for a lid operation.

My tables record 12 relapses in 142 operations for entropium of the upper lids. In 3 of the 12 cases partial entropium had occurred near the canthus; these cases belong to the first stage of the operation, when I yet thought the cilia nearest to the canthus could be everted permanently, without the deep sutures, by the removal of small triangles of integument. Since I have dropped this procedure and employed the deep sutures alone, I have not seen a relapse of this kind.

Four other instances of relapse also belong to the initial period of this operation. The lids presented the highest degree of inversion, and very marked incurvation of the cartilage, for which at present I consider grooving an absolute necessity. For the sake of an experiment, however, I did not groove the cartilages of those lids, because I was curious to see how much my method alone, without the aid of other means, could achieve in these worst forms of entropium; and I was gratified to see that even under such unfavorable circumstances, the eyelashes could be turned enough to clear the eyeball without one particle of skin having been excised; but the eversion of the tarsal edge was not complete so as to prevent a relapse. In repeating the operation the tarsi were grooved, and the results obtained which two years later were still perfect.

The eighth case of relapse occurred in a patient suffering from inveterate lues (which fact was not known to us at the time of the operation); the wound healed very imperfectly, and re-opened

after two weeks to reveal extensive ulceration, proceeding from the groove in the tarsus. Relapses 9 and 10 occurred in a young lady who returned to her home in Minnesota ten days after the operation. When she left, the lids were in a very nice condition, but at home (possibly from the severe cold weather in January), the lids became swollen, painful, and extremely sensitive to cold air. This state lasted about four weeks, and when the patient came back to the city her eyelids were still very tender upon pressure and sensitive to cold. It seemed to me that an inflammation and softening of the tarsus had taken place, and that under these circumstances the tarsal edge had again yielded to the traction of the very atrophic conjunctiva. In two instances, finally, the retro-tarsal fold of the conjunctiva was obliterated, and the height of the cartilage reduced to five *mm.* by atrophy of the conjunctiva and cartilage. In such cases the prospect for permanent improvement is very dubious; the fornix being obliterated, the lid is tied down, as it were, to the eyeball, which drags it along in its rotation. This continuous dragging creates chronic irritation and inflammation of the tissues of the eyelid, and in this way leads to further shrinkage of the component parts of the lid.

This extreme shrinkage of conjunctiva and tarsus is a very important factor in the results of the operation upon the lower lid, and has rendered a permanent relief impossible in three cases. In two other cases, however, the relapse must be charged to a faulty application of the sutures. In repeating the operation, it was discovered that the tarsus was unusually broad, and its lower portion was strongly bent inward, so much so, that the angle of the bend had been taken for the lower border of the cartilage, and the sutures been put in the wrong place.

As I could not examine every case at some later period, I can of course, not claim that these seventeen cases represent the actual percentage of relapses; on the contrary, I have no doubt that their number is greater, because I have operated on other cases under the same conditions as those which were followed by relapses. I mentioned the above cases simply to point out some of the influences which can affect the result of the operation, and to show that some of the causes have no particular relation

to the operation I employed, but will have the same bad effect upon the results of any other method. From my whole experience, I dare say that relapses will occur comparatively seldom, provided the operation be done with care and accuracy.

Among my cases there were fourteen upper eyelids upon which other operative methods had been tried for the relief of entropium. In the most cases Arlt's operation had been performed; and it was interesting to observe how seriously the movements of the upper eyelid are impeded by the removal of the tarsal skin, and that the degree of the disturbance stood in close relation to the size of the excised integument. In these cases we must take particular pains to make the incision in a line with the upper border of the tarsus, because after the transverse incision is made, the skin which was stretched and dragged out of place by the previous operation will shrink so much that there will not be enough to cover the whole lid with if the incision be made lower than the upper border of the tarsus. The skin must be dissected off from the tarsus clear down to the eyelashes by dividing all the cicatricial bands connecting the two parts; the cartilage being grooved, the sutures are put in. In this way I succeeded in relieving the entropium as well as in restoring to the eyelid its free and easy movements.

Operations for entropium producing perpendicular scars upon the eyelid are a gross offense against good taste and cosmetic laws, and the sooner they are excluded from the sphere of legitimate surgery the better. Twice I had occasion, in operating for entropium, to relieve the lid of the hideous deformity produced by such perpendicular scars.

With a few exceptions, the after-treatment consisted in the application of wet compresses during the first twenty-four hours; in six cases, borated cotton was used instead. First union was obtained in 140 cases; in thirty-seven cases pus showed itself in the sutures on the second or third day. The constitutional condition of the patients seemed to influence the healing process more than any other cause; among forty-three patients whose constitution was weakened by scrofula, anæmia, malnutrition, etc., suppuration occurred twenty-four times, while among the

134 robust patients the healing was disturbed in seven cases only.

Reviewing the results of my operations after a four-years' trial, I can say that they have well sustained and corroborated my former statement, that this operation possesses the following advantages and meritorious features :

1. That it accomplishes its purpose (relief of entropium) without the slightest destruction of skin.

2. That for this reason it can be employed in cases where other methods are impracticable on account of excessive shortness of the integument of the lid.

3. That it does not mutilate the lid or in any way interfere with its movements.

4. That in a case of relapse it can be repeated without in the least disturbing the natural appearance of the lid.

5. That the tension by which the inverted eyelashes are turned back to their normal position is rendered independent of the movements of the lid, because the distance between the two points upon which the tension is to exert its influence, viz., the upper border of the tarsus and the free edge of the lid, remains the same whether the lid is raised or dropped ; while where the entropium is relieved by the shortening of the integument, the tension is subjected to considerable variations, because it is regulated by the distance of the free edge of the lid from the supra-orbital margin. This distance varies with the movements of the eyelid ; it is greatest when the lid is closed, and therefore in this position of the lid the tension exerts its greatest influence upon the tarsal edge ; but when the lid is raised, its free edge approaches the supra-orbital margin ; consequently, the integument between these two points becomes relaxed, and the tension is greatly diminished, and may even be reduced to zero. Under these circumstances, therefore, the upper lid can appear everted when closed, and inverted when open.—*Archives of Ophthalmology, December, 1882.*

CLINICAL REMARKS ON THE FUNCTIONAL VOMITING OF HYSTERIA. By J. S. BRISTOWE, M.D., F.R.S.

There are few more troublesome affections to deal with than hysterical vomiting, and I suppose that most practitioners of long experience have, at one time or other, been sorely perplexed by cases of the kind. Fortunately, patients seldom die of it, and, even though all kinds of treatment may seem to fail, more or less perfect recovery usually ensues in the long run. I call to mind a few cases which in former years have deeply interested me; especially two, the one, that of a young unmarried woman, a hospital patient, the other that of a lady of mature years, whose hysterical symptoms were induced in the first instance by severe domestic affliction. The younger patient's vomiting dated from a voyage she had made across the Atlantic some time previously to her admission into the hospital. She continued to vomit after everything she swallowed, and came under my care in a state of great debility and emaciation. She remained in the hospital for some time, suffering from what seemed to be extreme irritability of the stomach, which drugs failed to influence, and which was finally benefited, though not cured, by reducing the food administered by the mouth to teaspoonfuls of milk only, and by supplementing these by nutrient enemata. The lady presented many symptoms of aggravated hysteria, besides constant and uncontrollable vomiting coming on immediately after everything that was taken into the stomach. She continued in this state for two or three years, became reduced to the last stage of emaciation and helplessness, and on many occasions appeared to be at the point of death; but she recovered. Some years afterward, having in the interval enjoyed excellent health, she suffered from a recurrence of her malady. In many respects the symptoms were different, but there was a return of the incessant vomiting. She continued in this state for many months, and again she became a living skeleton, and again her life was despaired of. But once more she recovered absolutely; and she remains well. I do not now give these cases in detail, partly because I have said enough about them for my present purpose, but mainly because I hope

on some future occasion to devote a special paper to their consideration.

In the spring of last year, another case of aggravated hysterical vomiting came into the hospital under my care. The patient was a distinctly hysterical young girl, who had been constantly vomiting for about four months, and who had consequently become extremely thin and weak. The abdomen was shrunken, but there was no sign of abdominal disease. Nevertheless, she continued to vomit after admission, exactly as she had vomited before, after everything she swallowed, even if it were only a little water. Various remedies were tried without effect; the food was reduced to milk given in diminishing doses, and ultimately in teaspoonfuls, but still she vomited. Raw meat was then administered, but the result was the same. Then for a week or so nutrient enemata were given to the exclusion of all other food; at the end of which time milk was again tried in minute quantities, and again it was rejected as it had been all along.

The question now for the first time presented itself to my mind, "Was it possible that the girl's vomiting was due, not to irritability of the stomach, but to functional affection of the œsophagus, and that she was being slowly starved simply because no food ever reached the stomach?" There was no doubt whatever that she swallowed the food. On this point the ward-sister and all who had to deal with her were unanimous. Indeed, I had myself watched her in the act of taking food; and further, I now made her swallow some milk in my presence. The act of deglutition was—it always had been—perfectly performed, the mouthful descended into the œsophagus, and thus got out of the sphere of voluntary action; and then, at the end of a minute or two, after appearing to suffer from a great deal of discomfort, she brought it up, as was her custom, without violent straining, but with efforts that fairly well resembled those of vomiting.

The reasons which collectively led me to suspect that her food never reached her stomach were partly personal reasons, and partly reasons derived from experience.

The personal reasons were, that there were never any clear symptoms of indigestion; no uneasiness after food; no flatulent distension, or tendency to eructate; and that, so far as I could

ascertain, she vomited all kinds of food, liquid or solid, equally, no matter how little or how much was taken. It seemed impossible that she could vomit from the stomach, without the most violent effort, the minute portions of milk, iced water, and raw beef which were often administered to her, which nevertheless she did reject (after swallowing) almost without change and almost without effort.

The reasons derived from experience were mainly furnished by three cases which presented themselves to my mind. A spare, middle-aged clergyman, of nervous temperament, and liable to megrim, has been in the habit for several years past of consulting me about his ailments, of which the most important has been a peculiar spasmodic affection of the œsophagus (so far as I know quite independent of organic disease of the part), which is apt to attack him at the beginning of a meal, and is usually attended by a painful sense of constriction originating in the lower part of the tube, gasping for breath, and faintness. Now and then, also, he brings up during the night a quantity of mucus, which appears to come from the œsophagus. But the special point in his case, which makes me refer to it now, is that some time since he took at night a dose of morphia for the relief of a threatened attack of megrim, without the expected relief, or even sleep, following, until half an hour or so after breakfast next morning, when he became drowsy. He was satisfied that the morphia had lain in his gullet all night, and that it had only been carried into his stomach with his breakfast. His suspicion has since been confirmed; for on several occasions subsequently, his dose of morphia, if it has not been carried on by food taken later, has lain in his œsophagus all night without producing any effect, and either it has been regurgitated in the morning, or its effects have followed his matutinal repast.

The second case was that of a hospital patient of mine, a man over fifty, who had suddenly, about a week before admission, become incapable of swallowing. He had been a healthy man; there was no explanation of his state that I could make out, but he had been wholly without food for a week, and he had consequently become thin, and especially much enfeebled. On making him take food in my presence, I found that he masticated prop-

erly, and that the act of deglutition was performed without difficulty, but that immediately what he had taken was violently ejected. The impediment was clearly in the upper part of the œsophagus. Having failed to detect any lesion by external examination, or by looking down the throat, I proceeded to pass a bougie. There was a very slight impediment at the upper part of the œsophagus, which was overcome without difficulty, and the instrument was pushed on into the stomach. The effect was marvellous; the patient swallowed without the slightest difficulty immediately afterward, and swallowed thenceforth as readily as he had always done up to the time of his illness. He came under my care again six months later for a temporary attack of catarrhal jaundice, from which he recovered in the course of a week or ten days. He had had no recurrence of dysphagia.

The third case was one of painful interest to me, for I failed to recognize its nature, and it is mainly, perhaps solely, to this failure, that his death must be attributed. The patient was a young man, whose illness had commenced six months before I took charge of him, and was attributed by him to his having drunk a pot of beer which irritated his gullet as it passed down. From that time he seems to have had constant sickness after food, and to have vomited from five minutes to half an hour after everything he took. He was very thin and weak when I first saw him, but I was unable to detect any evidence of abdominal disease. I attached very little importance, however, to the attributed origin of his illness, and assumed that, as his vomiting was often (indeed, generally) delayed for some considerable time after the ingestion of food, it was due either to pyloric obstruction, or to some functional disturbance of the stomach referable to disease external to it. In other words, though I never ventured to commit myself as to the exact nature of his malady, I believed that he had chronic organic disease; either chronic ulcer or cancer of the stomach, or disseminated cancer or tubercle. There were obvious and strong reasons against each of these views of his case; still, believing as I did that the vomited matters came from the stomach, I did not see my way to any other explanation, and I never thought of passing a bougie or of feeding him by the œsophagus tube. His vomiting was persistent up to the time of

his death. At the post-mortem examination, his stomach and other abdominal organs were all found to be healthy, and the only lesion discovered was dilatation of the œsophagus, with hypertrophy of its walls. I now naturally attached more importance than I had done to the history which he gave of his illness; I admitted that his dilated and flaccid œsophagus had formed a virtual impediment to the entrance of food into the stomach; I became impressed with the important practical fact that in œsophageal obstruction vomiting may be delayed for half an hour or more, as it is habitually in pyloric stricture; and, above all things, my unfortunate experience taught me the importance, in all obscure cases of persistent vomiting, of not omitting to examine the œsophagus, or to try the effects of injecting food directly into the stomach. The following are the details of this case:

Dilatation of the Œsophagus with Persistent Vomiting—Death.—J. B., a gardener's laborer, æt. twenty-four, was admitted into St. Thomas's, under my care, on June 7, 1879.

He was perfectly well (he said) until six months previously, when one day he drank about a pint of beer, which had a bad taste, caused some irritation along the gullet, and made him sick. The next day he had pain and difficulty in swallowing, and vomited after every meal. The vomiting had continued ever since, coming on from five minutes to half an hour or even an hour after ingestion, and induced not only by food, but by iced water and by medicine. He thought, however, that solids were less provocative of sickness than fluids. He had at no time, since the very first, had pain or difficulty in the act of deglutition, but had often suffered more or less pain behind the sternum and extending to the umbilicus, which came on after food and was relieved by vomiting. He had never vomited blood. He had generally had a desire for food, and had suffered only slightly from thirst. The bowels had been much confined. He had had a slight cough on and off for some time, and said that his sputa had occasionally been streaked with blood. He had lost flesh and strength latterly.

He was a thin, delicate-looking man, and patches of dilated vessels in his cheeks added to the unhealthiness of his aspect. His tongue was clean and moist, but rough; his appetite was fair; his bowels constipated. He complained of a slight dry cough;

but on physical examination there was no evidence of disease either of the lungs or of the heart. The respirations were 18; the pulse 120, feeble, small, and regular. The abdomen was soft and flat, and no tumor nor enlargement of any organ nor tenderness was discovered in it. The urine was small in quantity, free from albumen, and its specific gravity was 1028. The temperature was subnormal. There was no oedema of the limbs, and no enlarged glands in any accessible region. The vomit consisted mainly of matters which had been swallowed, and presented no pathological products under the microscope. The motions were solid and of healthy character. He was treated with bismuth and put on milk diet.

It would be tedious, nor would it be instructive, to reproduce the periodical notes that were taken of the patient's case from the time of his admission up to August 25, the day of his death; for, beyond the fact that there were progressive asthenia and emaciation, the symptoms varied but little from week to week.

He was treated dietetically mainly; by milk, and latterly by wine in addition, given in small quantities by the mouth at frequent intervals, and by nutrient enemata administered from two to four times a day. This treatment had the effect apparently of diminishing his sickness from time to time, and even of arresting it occasionally for a day or two; but on the whole the vomiting continued generally after everything he took, and from five minutes to half an hour or so afterward, and at times was severe. The vomit was generally merely what he had swallowed mixed with mucus, but occasionally it was dark and offensive, and had an unpleasant taste. Streaks of blood were observed in it from time to time. He generally complained of pain behind the sternum after swallowing, and occasionally also of pain at the episternal notch, a few inches below the left nipple, or at the umbilicus. It was noted on one or two occasions that the vomit came up without any straining. And, during the earlier part of his residence in hospital, he manifested a desire for food. He complained but little of thirst. His tongue was generally coated and sometimes dry.

The abdomen never became tumid. On the contrary, it got more and more hollow, and was always free from tenderness and

evidence of tumors. Shortly before his death, it was remarked that what appeared to be a narrow, thick-walled tube could be felt extending transversely across the abdomen above the umbilicus, and could be freely moved upward and downward. It was assumed to be the contracted stomach.

The bowels were for the most part confined, but during the latter part of July the patient suffered from diarrhœa.

The daily yield of urine varied from 10 to 18 ounces. Its specific gravity was high, but it was free from albumen and other abnormal matters. At one time he complained of pain and difficulty in passing it.

He suffered more or less from cough during the whole of the time he was under observation, and at times it was very troublesome, and attended with mucous expectoration, which was occasionally streaked with blood. There was never any clear evidence of pulmonary phthisis, but respiration was harsher and the voice resonance louder at the right than at the left apex, and some variable crepitation and rhonchus were observed here and there.

The heart's action was very feeble, and the pulse, which was always small and regular, sank until latterly it was only 52 in the minute.

His temperature never rose above 98.7° , and was almost invariably subnormal. It tended also to sink from the time of his admission to the day of his death. During July it ranged for the most part between 97° and 94° in the axilla. In August it sank still lower, and before his death fell to 92.8° . Latterly, also, he complained much of cold, and his hands and feet became cold and livid; occasionally he perspired. There was a uniform loss of body-weight from first to last. He weighed 8 stone 3 pounds when he first came into the hospital. He weighed only 5 stone 9 pounds on August 16. He was often very low-spirited during his illness, and was apt to cry; and shortly before his death he was occasionally delirious. He was conscious, however, to the last.

Autopsy.—The œsophagus was much dilated throughout its entire length, and full of fluid. It measured five inches in circumference at its upper part, and three inches just above the cardia. There was no stricture. The muscular coat was hyper-

trophied. The mucous membrane was thickened, generally pale, but presenting a few injected vessels, and thickly studded throughout its whole length with shallow circular pits, which appeared to correspond to dilated mucous follicles.

The stomach was much contracted, and its mucous membrane presented a few patches of congestion. The intestines were contracted and healthy. All the other abdominal viscera and the peritoneum were free from disease.

The lungs were congested, and the base of the right one was collapsed; otherwise they were healthy. Heart healthy.

The lessons applicable to my hysterical patient, which these three cases taught, were that vomiting from the œsophagus might simulate vomiting from the stomach; that œsophageal spasm might form a persistent obstacle to the passage of food; and that small quantities of alimentary or other matters might fail to excite the proper peristaltic movements of even the healthy gullet, and that hence the feeding of patients with teaspoonfuls of food, as is done in cases of irritable stomach, might fail both to impart nourishment and to throw any light on the condition of the patient's stomach.

The results of my experiment will appear in the narrative which I now proceed to give.

*Hysterical Vomiting.** Cure.—A delicate-looking girl, fourteen years of age was received into one of my beds in St. Thomas's on September 21, 1881. She was suffering, we were told, from an hysterical affection of the right hip, which first showed itself in July, 1879, and which had continued without cessation, but with varying severity, up to the date of her admission. It did not appear that she had ever before suffered from serious illness; she had never had fits; she had never been hysterical (in the popular sense of the term); the catamenia had not appeared.

At the time mentioned she fell into a state of languor and weakness, and the right hip became very painful—the pain running down the front of the thigh, and extending into the knee. The pain increased in severity until October, at which time she limped in walking, and only put her toes to the ground. This condition

* An almost identical case of œsophageal spasm, only in a young boy, is recorded by Mr. Hulke. Clinical Soc. Trans., Vol. VI.

continued without change to the end of the year, when some improvement took place, which was maintained during the greater part of 1880. In the autumn of that year her symptoms became much aggravated; she seems to have had considerable lumbar pain, and is said to have had sciatica. She then took to her bed, and never left it till July, 1881. There was no improvement, however, after this time, and she was at about her worst when I first saw her.

Then she complained of some pain in the back, but mainly she suffered with her hip. The joint was slightly flexed, and when she attempted to walk (which she did unwillingly, and only with assistance) the right lower limb was kept bent at the hip and knee joints, and she limped, but she planted her foot flat upon the ground. The joint was excessively tender, especially behind the greater trochanter, but there was no swelling, redness, or increase of temperature, and it was distinctly observed that she complained no more when the joint-surfaces were pressed against one another, or when the ligaments were stretched, than she did when the skin was simply touched. There was some rigidity about the joint, but no wasting of muscles. There was nowhere any loss of sensation or of the tendon reflexes, but the superficial reflexes were feeble. The affection had been regarded as hysterical, prior to admission, and in this opinion I and others who saw her in the hospital concurred. While under treatment, she manifested a tendency to sob at times, and the condition of her hip varied a good deal, but she left apparently much improved, on December 10.

She was re-admitted on May 15, 1882. It appeared that, soon after she left the hospital, she began to vomit after food, and before long, after everything she took, the sickness coming on immediately; that she rapidly lost flesh and strength; and that, although the hip-affection remained, it formed a less prominent subject of complaint than it had done previously.

She was much emaciated (weighing only 3 stone $3\frac{1}{2}$ pounds), very feeble, and confined to bed; her cheeks were a little flushed, and her face (which rarely varied) wore a mixed expression of apathy and martyr-like resignation; her skin was dry; her pulse feeble and slow; her temperature normal. She vomited after

everything she took; her bowels were constipated; her urinary secretion was normal; she had no abdominal pain. The belly was hollow, and presented neither tenderness nor lump. The catamenia had not appeared. Her hip was tender, and the joint was kept partly flexed, but she complained of it much less than when she was in the hospital last.

From the first she continued to vomit after whatever was taken; the vomit consisting mainly of the food swallowed and mucus, and the sickness generally coming on a few minutes after ingestion. It was sometimes, however, delayed for ten minutes or a quarter of an hour. It appeared, nevertheless, that a small proportion of her food was retained. After a day or two's experience, she was ordered to take a dessertspoonful of milk only every half-hour, which she vomited. The quantity was then reduced to a teaspoonful, which she likewise vomited; but at the same time nutrient enemata were directed to be administered twice daily. As the vomiting continued without abatement after every kind of fluid swallowed, no matter what its bulk, it was determined to make a trial of small quantities of solid food, frequently given. Pounded raw beef, mixed with currant jelly, was selected, of which she took a teaspoonful at a time. This, however, returned as everything else had returned. A fortnight after admission (the rejection of food continuing unabated) it was determined for a few days to give the stomach entire rest, and to feed her solely with nutrient enemata, of which at first three, and subsequently five, were given daily. She was treated thus for about ten days, and during this time vomited only after taking medicine, which was consequently discontinued after a day or two. During the latter period no particular change was observed in her condition; she presented the same manner and appearance as on admission; she complained of no pain excepting in her back and right hip; she was generally very restless and sleepless at night; she had no desire for food or drink; she did not feel sick; her bowels were confined; her temperature was generally subnormal, as it had been nearly ever since admission, and often sank to 96° ; her pulse, which was extremely feeble, ranged between 42 and 60. She had lost only one pound in weight in a little more than three weeks.

At the end of this time the administration of milk in teaspoonful doses was recommenced—at first only three or four times a day, and then every hour. But again we were disappointed, for after every dose of milk, milk was speedily vomited. In fact, her stomach appeared to be just as irritable now as it had been at first. After a day or two, a grain of opium in the form of a pill was given two or three times a day; but this treatment had no effect. The administration of milk by the mouth was persisted in for four or five days, at the end of which time, feeling a good deal puzzled and disheartened, I gave more serious thought to the incidents of her case than I had previously done, and discussed them fully with my class. I had hitherto assumed that she was suffering from extreme irritability of the stomach, and that it was this irritability which caused her to vomit constantly. But I now called to mind that she had never complained of actual pain or tenderness in the region of the stomach; that she was not flatulent; that her vomiting was an easy process with her; and especially that she brought back the greater part of the minutest quantities of food taken, and in whatever form it was taken. And I asked myself the question, “Was it possible that the bulk of her food never entered the stomach at all, but was retained in the œsophagus and thence regurgitated?” I had other reasons, which I have already fully explained, which helped to suggest this question, and inclined me to answer it in the affirmative. I now made the girl swallow a dessertspoonful of milk in my presence, and watched the progress of events. She swallowed it without difficulty, and it evidently went beyond the influence of the pharynx; then she appeared to suffer from some discomfort, and in the course of a minute or so, without any very violent effort, but with a certain amount of spasmodic action, the milk was gulped up into the mouth.

I then (on June 11) got Mr. Pitts, the resident assistant surgeon, to see the patient with me. And at my request, and in my presence, he passed a medium-sized India-rubber tube along the œsophagus into the stomach, and then injected into that organ about three ounces of milk. There was a little impediment to the passage of the instrument in the lower part of the tube; but it was readily overcome, and evidently was not due to any organic

disease. The milk thus injected did not cause any feeling of sickness, and remained in the stomach without causing discomfort. She did, immediately after the removal of the tube, regurgitate a small quantity of milk, but this was clearly only the milk which escaped into the œsophagus during the withdrawal of the instrument.

It was intended to feed her daily by the tube, but she never required it again during her stay in the hospital. For the next day or two she took milk in small quantities, returning a little of it only occasionally. Two days after the use of the tube, she began to take a tablespoonful of milk every hour, which she retained. The next day a teacupful of milk, with a little tea in it to give it flavor, was ordered to be given several times a day instead, and a little bread and butter was added. These also were retained. The next day her allowance of food was increased by a small quantity of custard-pudding; and thus by degrees her diet was improved in quality and increased in quantity, until, at the end of two or three weeks (or about June 28), she was taking daily a fair quantity of milk, together with two eggs, fish, pudding, and bread and butter. The nutrient enemata, however, were persisted in for a day or two longer, and were then discontinued, partly because their more nutritive ingredients had been withdrawn for administration by the mouth, partly because the bowels, which had hitherto been constipated, became loose. The diarrhœa troubled her for about a fortnight, and had to be treated by astringents. But she continued to take food in increasing quantities up to the time of her leaving the hospital.

It must be observed that the patient to the last appeared to have no desire for food, and to derive no pleasure or comfort from taking it. She took it only because she was compelled; but she took it without difficulty or discomfort. Only on one or two occasions did she vomit any of it. She did not gain flesh very appreciably, and in fact, when she left only weighed two pounds more than she had done on admission, and three more than at her period of greatest enfeeblement and emaciation. The continued diarrhœa may, to some extent, have retarded her progress in this particular, but in other respects the improvement, if slow, was marked; she certainly grew stronger and more cheerful, and her

aspect and complexion assumed the characters of health. Moreover, her temperature, which for the greater part of her stay in the hospital had ranged between 95° and 98° , during the last few weeks seldom fell below 97° , and generally varied between one or two tenths of a degree above 98° and one or two tenths below it. The pulse was generally very slow throughout her illness, varying perhaps between 40 and 60, but latterly it rose occasionally to 70 or 80.

She left the hospital on July 29, cured of the vomiting, and generally benefited in health, but not so much benefited as I could have wished. The fact is, she fretted so much, and so persistently, to go home, that at length, fearing her constant fretting might be retarding her convalescence, I reluctantly complied with her wish. It was clear, however, that though she was thus cured of one important outcome of her hysterical condition, the fundamental malady still remained. The hip-joint continued painful, and I was scarcely surprised to hear that, a month or two later, during my absence from town, there had been a recurrence of the vomiting, and that her mother had brought her to the hospital to have the œsophagus tube re-introduced.

I have little to add by way of comment. There is no doubt, of course, that in most cases of hysterical vomiting, it is the stomach that rejects the food. But it is obvious that in an undetermined minority of cases of such vomiting, of which my case is an example, it is the œsophagus rather than the stomach that is in fault, and if, in such cases, the irritability or spasm of the gullet can only be overcome, and the food swallowed be allowed to reach its destination, the vomiting will cease. If one has reason to suspect the latter condition to be the cause of the patient's symptoms, it is fortunately easy to put the question beyond doubt by having recourse to the œsophagus-tube or stomach-pump; and, if the answer be in the affirmative, to cure the patient of her malady by the repeated use of the instrument and artificial feeding. There is reason, however, to hope that a single introduction may suffice to effect a more or less permanent cure.

How often one has reason to wish that the past, with its misapprehended experience, could be recalled! I have often thought,

since I learnt the lesson which my hysterical girl taught me, that the two cases which I quoted at the beginning of my paper were cases of the same kind as hers, and might have been cured with comparative ease and rapidity.—*Practitioner*.

LOCOMOTOR ATAXY.

Dr. H. C. Tweedy read a paper on two cases of locomotor ataxy, and exhibited the patients. The first case was that of a pensioner, æt. 64, who was admitted into Stevens' Hospital in 1871, presenting most of the symptoms of the affection—the peculiar gait, the absence of co-ordination and of the neuralgic pains characteristic of the earlier stages of the disease. He was persistently treated with nitrate of silver, in doses of $\frac{1}{3}$ gr. three times daily, and continued the use of the drug at intervals for nearly twelve years, during which time he was again in the hospital during the years 1873–76–82. The ataxic symptoms had completely disappeared, but from the length of time the silver had been taken the patient had become argyrised. Attention was invited to the peculiar leaden discoloration of the skin from this cause; and the opinion of the members was requested as to whether the symptoms clearly indicated a case of tabes dorsalis, or one of those rare cases in which the progress of the disease had been arrested, and a cure had followed, whether spontaneously or the result of the remedy employed. The second case was that of an engine-driver, æt. 42, in whom the disease was only of six months' standing. This patient also exhibited most of the phenomena of the earlier stage of the disease, the peculiar gait, and fulgurant pains along the course of certain nerves; but in addition there were consecutive attacks of a cutaneous eruption resembling erythema, entirely confined to the left side of the body, and unaccompanied by any of the usually attendant neuralgic pains. There was also a patch of an eruption resembling psoriasis on the back of the left wrist; no similar patch co-existing on the opposite side. Attention was drawn to the fact of eruptions, usually bilateral, appearing only on one side of the

body, the connection between these and similar eruptions occurring as trophic lesions in tabes dorsalis, but accompanied invariably by lancinating pain along the course of the nerves over which the eruptions were found.

Dr. Banks, having seen a great many cases of locomotor ataxy, was of opinion that in a considerable number the disease stood still, and in others appeared to be removed. He had used nitrate of silver with great advantage, and did not participate in the terror some had of its effects in producing discoloration of the skin. He had once seen it occur in a case of epilepsy. He believed in the existence of a syphilitic taint in a large proportion of cases.

Dr. Grimshaw remembered the case brought forward by Dr. Tweedy. The result of the treatment was admirable.

Dr. Nixon agreed with Dr. Banks as to the frequency of arrest, and even occasional cure, of the disease, especially in cases in which syphilis existed. He considered the skin affections in one of Dr. Tweedy's cases as coincidences, and preferred referring them to a syphilitic origin.

Dr. Robinson asked whether either of the patients was addicted to the abuse of stimulants.

Mr. Lentaigne mentioned a case in which Langenbeck stretched the sciatic nerve, and the symptoms disappeared. A subsequent autopsy showed the spinal cord to be perfectly healthy.

The President related a case of syphilitic origin which recovered under the use of KI.

Dr. Henry Kennedy and Dr. W. G. Smith also took part in the discussion.

Dr. Tweedy, in replying, said that in the case which had recovered, the man had no syphilitic history. Neither patient had been addicted to intemperance.—*Medical Press*.

THE county commissioners have appointed Dr. Wm. T. Belfield Assistant Pathologist at the Cook County Hospital.

Two members of the homœopathic staff have been invited to resign, and their places filled by other similia.

Items.

AMERICAN MEDICAL ASSOCIATION.

The Thirty-fourth Annual Session will be held in Cleveland, Ohio, on Tuesday, Wednesday, Thursday and Friday, June 5, 6, 7, 8, 1883, commencing on Tuesday, at 11 A. M.

"The delegates shall receive their appointment from permanently organized State Medical Societies, and such County and District Medical Societies as are recognized by *representation in their respective State Societies*, and from the Medical Department of the Army and Navy, and the Marine Hospital service of the United States.

"Each State, County and District Medical Society entitled to representation shall have the privilege of sending to the Association one delegate for every ten of its regular resident members, and one for every additional fraction of more than half that number: *Provided*, however, that the number of delegates for any particular State, territory, county, city or town shall not exceed the ratio of one in ten of the resident physicians who may have signed the Code of Ethics of the Association."

Secretaries of Medical Societies as above designated are earnestly requested to forward, *at once*, lists of their delegates.

Also, that the Permanent Secretary may be enabled to erase from the roll the names of those who have forfeited their membership, the Secretaries *are, by special resolution*, requested to send to him annually a corrected list of the membership of their respective societies.

SECTIONS.

"The Chairmen of the several Sections shall prepare and read, in the general sessions of the Association, papers on the

advances and discoveries of the past year in the branches of science included in their respective Sections. * * *”—*By-Laws*, Art. 11, Sect. 4.

Practice of Medicine, Materia Medica, and Physiology—Dr. J. H. Hollister, Chicago, Ill., Chairman; Dr. J. G. Lee, Philadelphia, Secretary.

Obstetrics and Diseases of Women and Children—Dr. J. K. Bartlett, Milwaukee, Wis., Chairman; Dr. G. A. Moses, St. Louis, Mo., Secretary.

Surgery and Anatomy—Dr. W. F. Peck, Davenport, Iowa, Chairman; Dr. P. F. Eve, Nashville, Tenn., Secretary.

State Medicine—Dr. Foster Pratt, Kalamazoo, Mich., Chairman; Dr. T. L. Neal, Dayton, Ohio, Secretary.

Ophthalmology, Otology and Laryngology—Dr. A. W. Calhoun, Atlanta, Ga., Chairman; Dr. Carl Seiler, Philadelphia, Secretary.

Diseases of Children—Dr. R. F. Blount, Wabash, Ind., Chairman; Dr. J. H. Sears, Waco, Texas, Secretary.

Oral and Dental Surgery—Dr. D. H. Goodwillie, New York City, Chairman; Dr. T. W. Brophy, Chicago, Ill., Secretary.

A member desiring to read a paper before any Section should forward the paper, or its *title* and *length* (not to exceed twenty minutes in reading), to the Chairman of the Committee on Arrangements at least one month before the meeting.—*By-Laws*.

Committee of Arrangements—Dr. X. C. Scott, 393 Euclid Avenue, Cleveland, Ohio, Chairman.

Amendments to the Constitution—Offered by Dr. N. S. Smith, Dakota:

“To provide for the admission to membership of two delegates from the Medical Bureau of the United States Indian Service, to be nominated by the Surgeon-in-Chief of the Bureau, and approved by the Secretary of the Interior.”

Offered by Dr. J. M. Toner, D. C.:

“That the office of Permanent Secretary be vacated, and that the Nominating Committee hereafter annually nominate a Secretary who will serve without compensation.”

Offered by Dr. F. Pratt, Mich.:

“That the law requiring the nominations for officers to be made

from those members present at the annual meeting, shall apply only to the President, Vice-Presidents, Chairmen and Secretaries of Sections, the Assistant Secretary, the Chairman of the Committee of Arrangements, and the Judicial Council."

Offered by Dr. J. M. Keller, Ark. :

"To permit the holding of the annual meeting as late as the first Tuesday of September, if desirable."

Offered by Dr. J. H. Sears, Ark. :

"That the Chairman and Secretary of each Section may add any number of earnest workers to their Sections, in addition to those named by the Nominating Committee, and that the Librarian be made a permanent officer."

Amendments to the By-Laws—Offered by Dr. J. W. Smith, Iowa. Art. II. Sect. 8. Permanent Members : strike out the words "but without the right of voting."

WM. B. ATKINSON, M. D.

Permanent Secretary.

Philadelphia, 1400 Pine st., S. W. cor. Broad.

COOK COUNTY HOSPITAL. Reported by DR. E. P. DAVIS.

The interesting operations of the hospital surgeons during the six weeks ending May 15 have been as follows :

Two secondary amputations of the thigh after excision of the knee joint; in one case the primary operation was defeated by secondary hæmorrhage, which necessitated turning back the flaps and the application of styptics; in the other case, that of a child, sinuses were left which refused to close. In both cases, marked improvement followed the second operation.

Amputation of the thigh for rupture of the popliteal artery. The patient, a middle-aged woman, was admitted with distension of the knee joint with pus; limb flexed at right angles and not ankylosed; a history of rigors and sweats. As soon as possible, an attempt was made to straighten the limb and drain the joint freely. Under the exercise of very moderate force, the popliteal artery ruptured. Amputation was immediately performed. The severed joint was found extensively eroded, while pus had bur-

rowed below the knee. Although the tissues above the knee were much impaired in nutrition, the patient's progress has been unexpectedly good.

A large cyst of the parovarium was removed from a woman of middle age. A diagnosis of ovarian cyst was made, but the real nature of the case became apparent on opening the abdomen. To remove the tumor, an extensive dissection of the peritoneum was necessary. A pedicle was made, and cauterized with thermo-cautery. Silk and catgut were used as ligatures, and antiseptic precautions observed. A drainage tube was introduced, and the external wound closed with silk. Death from shock followed three days after the operation. A post-mortem revealed no peritonitis and no hæmorrhage; union of the external wound with inconsiderable suppuration. The application of heat by means of the passage of water through flexible metal tubing, coiled to fit the abdomen, was employed with good results during the case.

An adult male was admitted with an injury to the hip joint, produced by falling backward from a fence about twenty feet. A diagnosis of dislocation into the thyroid foramen was made, crepitus indicating some injury to the acetabulum. Reduction was effected by manipulation without difficulty.

A large epithelioma, involving the entire cheek and chin, and also the inferior maxilla, was removed, and a portion of the jaw at the symphysis exsected. The floor of the mouth was exposed, the submaxillary and sublingual glands removed, and involved lymphatics. Free dissection of the alveolar tissues enabled the operator to close the wound with plastic pins; iodoform was used freely in dressing. The recent occurrence of the operation does not indicate the result at present. The patient's constitution is good.

THE Prospectus of the journal of the American Medical Association will be found on another page. It is understood that its editor will be Dr. N. S. Davis, of Chicago, and that the journal will be published in the same city. This adds a most important influence towards elevating the medical standard of the Mississippi Valley and of the West. But with such a trust in our

hands goes also a certain responsibility. If the profession of this part of the nation are wise, they will lend their support in every possible way, not only to this, but to every one of their respectable home journals. In no other way can the medical centers of the West hope to secure for themselves what justly belongs to them. Every year a large number of very valuable contributions, produced by Western men, is sent to Eastern journals. Clearly such a course helps to build up the medical centers of the East, by giving to them what naturally belongs to the West. It has long been a mystery why men who could directly profit by the development of their own sections, as medical centers, are constantly adding to the attractions of distant cities, and to the advantage of those there practicing. It is not denied that whatever adds to the strength of a medical center draws patients to that center, and it follows that when a good, original contribution is sent to New York or Philadelphia, from Chicago or St. Louis, the writer, by his influence, sends, indirectly, with that contribution, valuable professional business that would otherwise more naturally be attracted to his own field. If our medical authors would consider their own interests a little more, and be governed a little less by the traditions of the past, traditions which no longer need apply, they must certainly see that they have not properly appreciated their own opportunities. The *Review* is not asking for itself. It has no grievance, but it would take this occasion to ask in behalf of the new enterprise the hearty co-operation of the whole profession. The Association journal starts with fortunate prospects. Its editor has been well chosen. No man in the profession has done more honest, hard, downright telling work. He now does the profession a favor in undertaking the management of this journal. Its establishment in our midst is a compliment to ourselves. Let us deserve the compliment.—*The Weekly Medical Review*.

BANQUET AT THE ACADEMY OF MEDICINE.—After the addresses of the retiring and incoming presidents (which were received with great fortitude) the members and invited victims enjoyed the following menu:—

SOUP.

Vermicelli, Mutton-Broth, Oatmeal Gruel, St. Ignatius' Bean Soup, Pea-Soup (Alkaline reaction).

FISH.

Cod, with Whale Oil; Morrhuae Salad, Cat, with Caper Sauce, Dog-Fish, Star-Fish.

MEATS.

Nutmeg Liver, Amyloid Kidney, Fatty Heart, Spleen (*Ad Libitum*).

RELISHES.

Pepsin, Ingluvin, Hydro-Piper, Mustard Plasters, Salts, (Glaubers and Epsom), Vinegar (*Acetum Opii*).

WINE AND LIQUORS.

Vin Ferri, Vin Colchici, V. Aloes, V. Antimon., Liquor Potass., Liq. Arsen., Gin-Seng.

FRUITS.

Adam's Apples, May Apples, Apples of Sodom, Apples of Discord, Apples of the Eye. Nuts—Arom, Brazilian, Butternuts, Strych. Nux Vom.

ICES.

Cold Cream, Camphor Ice, Ice (Bags to the Spine).

CONFECTIONS.

Sugar Coated Pills, Tamarinds, Tropic Fruit, Chlor. Potass. Lozenges, Bronchial Troches.

DRINKS.

Sage-Tea, Bone-Set-Tea, Chamomile Tea, Whey, Coffee, with Glucose; Sugar of Milk, Sugar of Lead, Milk of Assafoetida, Condensed Milk, Goat's Milk, Cowmiss, Cream of Tartar.

Guests will be waited on by experienced nurses.—*The Cincinnati Lancet and Clinic*.

IS IT TRUE? HAS THE ILLINOIS STATE BOARD OF HEALTH UNCONDITIONALLY SURRENDERED TO COLUMBUS MEDICAL COLLEGE?—Such is the announcement made by *Gaillard's Medical*

Weekly. In October, Dr. Rauch, Secretary of the Illinois Board of Health, requested a formal communication from the West Virginia State Board of Health, giving its action respecting the Columbus Medical College. It was understood that it would sustain the West Virginia Board. But meantime a nephew of Dr. J. W. Hamilton, the owner of Columbus Medical College, had become governor of the State of Illinois. The Illinois State Board of Health has not sustained the West Virginia Board. By default, it recognizes the college which granted a diploma to a man after three weeks attendance upon a lecture course. Is this a stand that promises a higher medical education? Is this the Board which is to sweep Illinois free from uneducated doctors? Is three weeks lecture attendance sufficient to constitute a regular medical course? Alas, the times! the customs! It looks as if the owner of Columbus Medical College fixed his nephew, the governor of Illinois, so that the Illinois State Board dared not to peep against Columbus Medical College. Against little colleges which have little or no influence in the political circles regulating the appointing power of the Illinois State Board of Health, we may expect fulminations of excommunication, but the rest may do as they please. Such seems to be the lesson of the past, as regards this Board, and so it will be till the end of time. Political power regulating the practice of medicine is useless unless the people are themselves so educated that they can do their own regulating. Then State boards will not be needed. We are very sorry that the "back-bone" of the Illinois Board has proved to be "mush" against a really powerful and dangerous adversary. In fact, we hope that in some manner it may be shown that the whole affair is a myth and that the Board will sustain the action of the West Virginia Board. If not, the days of usefulness of the Board are ended.

THE PHILADELPHIA HOSPITAL FOR SKIN DISEASES, No. 923
Locust street, Philadelphia, Pa.

BOARD OF MANAGERS.—Robert E. Rogers, M. D.; Wm. H. Pancoast, M. D.; Rev. Geo. F. Wiswell, D. D.; C. W. McKeegan, Esq.; Geo. W. Fairman, Esq.; Hon. A. K. McClure;

Wm. S. Janney, M. D.; Wm. B. Atkinson, M. D.; Lawrence Wolff, M. D.; Geo. H. Brown, Esq. L. Wolff, M. D., Secretary.

ANNOUNCEMENT.

The Board of Managers of the Hospital for Skin Diseases, of Philadelphia, take pleasure in announcing that they have recently added to their facilities a complete system of baths for the general and specific treatment of this class of affections. Under this head are comprised the Turkish, Russian, vapor, medicated and electric baths, for the giving of which the latest and most approved apparatus has been obtained at considerable cost. The subject of balneology, as connected with skin diseases, is receiving much attention from specialists, and the physician in charge of the hospital is giving it the consideration that the importance of the subject demands. Peculiar advantages are thus afforded physicians and advanced students who wish to obtain a knowledge of this branch of therapeutics by visiting the hospital and consulting with the attending physician.

Free clinics are given at the hospital daily, at 11:30 a. m., by the physician in charge, Dr. John V. Shoemaker, where can be seen a great variety of diseases. The large variety of cases presented enable those who attend the clinics to gain in one or two courses a practical knowledge not obtainable in private practice. The course is made more comprehensive by didactic lectures which are delivered at the hospital on Mondays and Fridays, at 11 o'clock, A. M.

The dispensary is open for the reception of patients daily, Sundays excepted, at 11:30 A. M. Physicians and advanced medical students are always welcome, either as visitors or for the purpose of attending the free clinics. The superintendent, Mr. F. C. Waterman, will be in his office in the hospital every day from 11:30 A. M., to 2 A. M., to receive visitors or to transact business.

The following letter explains itself:

CLEVELAND, O., MAY 8, 1883.

MESSRS. EDITORS:—The next annual meeting of the American Medical Association will be held in this city, June 5th to

8th, inclusive. All railroads west of Pittsburg, Salamanca and Buffalo, east of Chicago and south of Cleveland, will carry delegates and members of their families to Cleveland at one full fare, and return them on certificate signed by me as chairman of the committee (certifying that they have been in attendance at the meeting of the Association) at one cent per mile.

The trunk lines east of Buffalo, Salamanca and Pittsburg, have refused to make any reduction. The rates per diem at the hotels will be: Kennard House, \$3; Weddell House, \$3; Forest City House, \$2.50 to \$3; American House, \$2.50; Hawley House, \$2; Striebinger House, \$2; Clarendon House, \$2, and Prospect House, \$2.

X. C. SCOTT,

Chairman Committee of Arrangements.

THE city Health Department reports for the month of April a mortality of 922. The highest numbers of causes reported as follows:

Phthisis pulmonalis, 93; pneumonia, 78; bronchitis, 53; diphtheria, 48; scarlet fever, 36; typhoid fever, 16; enteritis, 17; diseases of the heart, 31; infantile convulsions, 51; cerebral meningitis, 28; puerperal peritonitis, 4; peritonitis, 11; senile debility, 23; congenital debility, 20; still births reported, 64; 7 deaths from small-pox. Deaths under 5 years, 440; under 1 year, 209.

Comparative mortality. April, 1882, 1003; March, 1883, 968; April, 1883, 922.

Range of temperature, 28.3 to 78.3.

THAT quacks cannot be held in damages for malpractice is sustained by the following decision of an Oriental court. A fellow had a pain in his eyes, and went to a farrier, saying, "Give me medicine." The farrier applied to his eyes the remedies he was in the habit of using for his animals, and blinded him, on which he complained to the magistrate, who pronounced that he could not recover damages; "For," said he, "if this fellow had not been an ass, he would not have consulted a farrier."

FRIEDERICH thinks that in hysterical persons who practice masturbation, the clitoris is irritated by this manipulation and

that the reflex symptoms, as convulsions, etc., are thereby produced. He has applied the nitrate of silver to the inflamed clitoris, and seen many cases where all severe symptoms were relieved after a few applications. He thinks further that the gynæcologist should not treat the uterine tract in hysterical persons, there being mostly no pathological phenomena.—*Memorabilien*.

PROF. JNO. E. OWENS has resigned the chair of Surgery in the Woman's Medical College.

AT a meeting of the Faculty of the Woman's Medical College, held at the Sherman House, May 17, Prof. D. W. Graham was elected to the chair of Surgery; Dr. Walter L. Dorland to the chair of Materia Medica and Therapeutics, and Dr. M. E. Bates to the lectureship of Anatomy.

PROF. T. DAVIS FITCH, of the Woman's Medical College, has been created Emeritus Professor of Gynæcology in that institution. His many friends will be pleased to hear of his satisfactory progress toward recovery, and his ability to again resume his practice.

Prof. M. J. Mergler has been elected associate Professor of Gynæcology.

BEGINNING with the first number of the tenth volume, issued May 3, the *Maryland Medical Journal* was changed to a weekly publication, and will appear every Thursday. Each number will contain sixteen pages, double column, of solid reading matter. The size and appearance of the *Journal* will be slightly altered to conform to the requirements of a weekly.

TREATMENT OF GRANULAR CONJUNCTIVITIS BY SEQUERITI.

Sequeriti is universally applied in diseases of the eye in Brazil. The remedy has been tried in Paris with apparently good results. The seeds of the plants are boiled in water (1:100), and the inflamed lids washed with the solution three times a day.—*Le Praticien*.

This Book is due on the last date stamped below. No further preliminary notice will be sent. Requests for renewals must be made on or before the date of expiration.

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A fine of twenty-five cents will be charged for each week or fraction of a week the book is retained without the Library's authorization.

